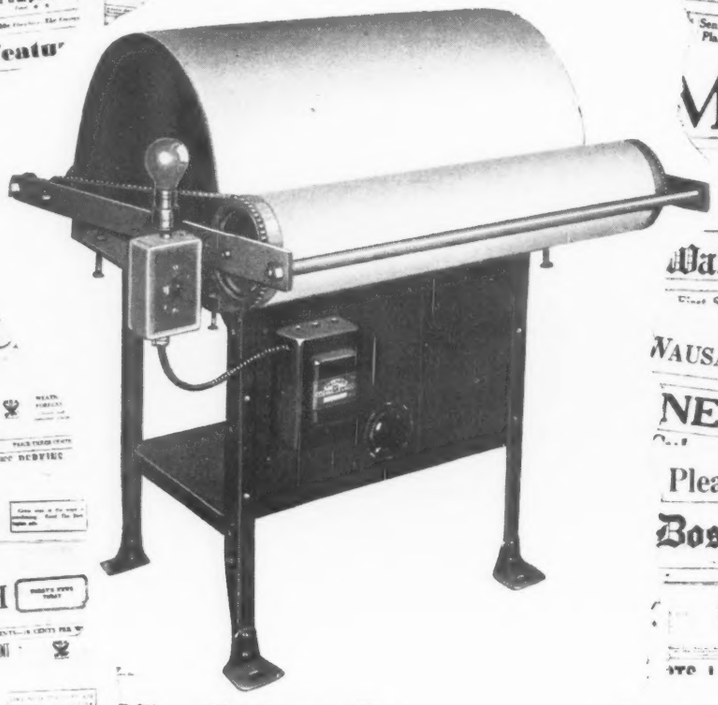
PRINTING EQUIPMENT ENGINEER

DECEMBER • 1933

A Technical Publication for Mechanical Executives Responsible for Printing Production, Equipment and Supplies

"NOW IS THE TIME"

To replace old methods and old worn-out or inefficient Scorchers with the new up-to-the-minute Form-O-Scorch. "BUY NOW."



The FORM-O-SCORCH

Low first cost, Low cost of operating, Perfect Mats—free from imperfections produced in minimum time—these features mark the Form-O-Scorch as the outstanding scorcher on the market.

Consider also the simplicity of construction of this machine which permits quick replacement of burned out heating elements with little loss of time, against the ordinary machine which literally must be dismantled to do this work.

Analyze the Form-O-Scorch from any angle you choose—*Cost—Upkeep—Operating Expense—Production* or *Durability*. Then send in your order.

AMERICAN PUBLISHERS SUPPLY

P. O. BOX 131 • WEST LYNN, MASSACHUSETTS

SOLD EXCLUSIVELY BY AUTHORIZED SALES AGENTS·

Burgess Cellulose Company, Freeport, Illinois
Reed Roller & Supply Co., Inc., Seattle, Washington
Mid-West Publishers Supply Co., 120 No. Lasalle St., Chicago, Ill.
Wood Flong Corporation, Hoosic Falls, N. Y.
Certified Dry Mat Corporation, 342 Madison Ave., N. Y. C.
George Russell Reed, Jr., San Francisco, Cal.
Mr. I. R. Burton, Special Representative, 2823 Forest Ave., Kansas City, Mo.

NEW YORK JOURNAL-AMERICAN

CHICAGO HERALD-EXAMINER

PITTSBURGH SUN-TELEGRAPH

WASHINGTON (D. C.) HERALD & TIMES

WASHINGTON (D. C.) POST

NEWARK (N. J.) NEWS

NEW YORK DAILY NEWS

ATLANTA JOURNAL

The impressive list of newspapers, indicated above, have placed orders for Stahi AUTOFORMER'S; which makes certain interesting conclusions possible. The first of those is the fact that the trend today is toward higher quality printing; effecting greater advertiser response and satisfaction. Stahi takes its place in the ranks of Automatic Production Machinery—as a most important vehicle in effecting Quality Printing; by producing Uniform Casting Levels in dry mats—which in turn, produce Uniform Printing Levels on Printing Plates. A second observation discloses that the Stahi AUTOFORMER is a very fast means of producing dry mats ready for placing directly in casting units—thus avoiding congestion in the scorching division of the stereotype department. Ask any AUTOFORMER owner, or ask us, or any of our agencies.

STAHI NEWSPAPER SUPPLY COMPANY, Inc.

Los Angeles, Calif. **Portland, Oregon**

AGENCIES

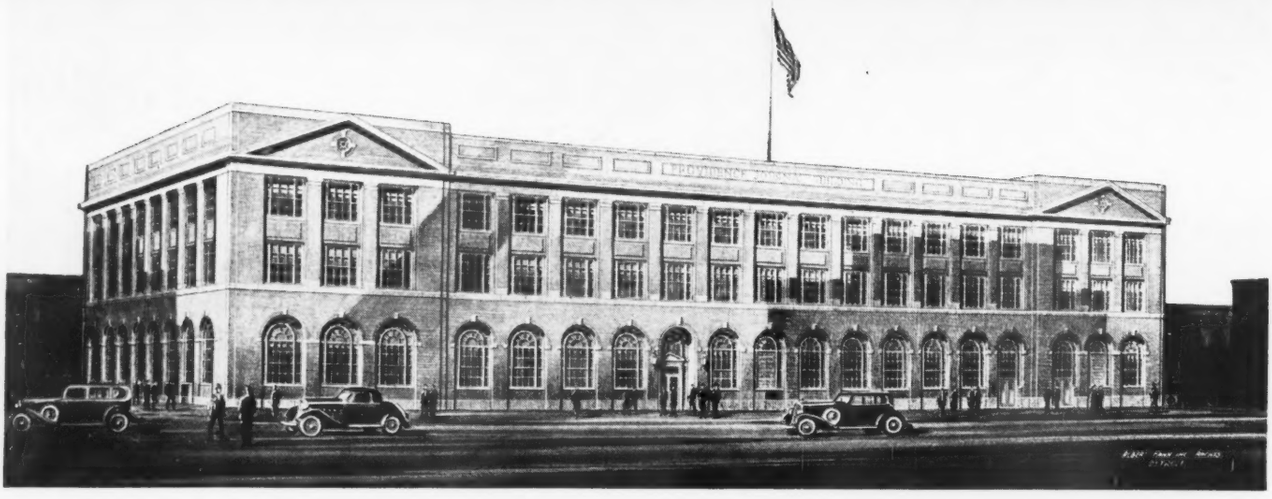
GOSS PRINTING PRESS COMPANY
Chicago, New York, San Francisco

GOSS PRINTING PRESS COMPANY, LTD.
London, England

TORONTO TYPE FOUNDRY COMPANY
Toronto, Montreal, Winnipeg

WOOD FLONG CORPORATION
Hoosick Falls, N. Y.

New Plant of
THE PROVIDENCE JOURNAL & BULLETIN
Equipped 100% with Goodrich Rollers...



Reproduction from Architect's Drawing of The Providence Journal & Bulletin's new building

Architects—Albert Kahn, Inc., Detroit
Contractors—James Stewart & Co., New York

PIONEERS in the use of rubber printers' rollers, The Providence (Rhode Island) Journal and Bulletin first tried *Goodrich* Rollers in 1920. Since that time, as roller replacements became necessary, Goodrich Rollers were ordered for the re-equipment of old presses. When new presses were purchased in 1929 and 1930, Goodrich Rollers were specified and installed.

Today, The Providence Journal and Bulletin is building a new home—realizing a dream of complete modernization. The central feature of its modern printing plant will be a battery of four Scott Extra High-Speed Multi Unit Octuple presses. These presses will be equipped 100% with Goodrich Printers' Rollers.

Goodrich Printers' Rollers provide printing that is clear and sharp throughout the run—with production speeded and improved; eliminate shutdowns for resetting or washups; require regrinding only after severe and prolonged service; insure longer life to the rollers in any climate; and reduce operating costs. These are some of the reasons why The Providence Journal and Bulletin has now standardized on Goodrich Rollers and why leading publishers everywhere rely upon them in order to maintain the highest standard of newspaper printing.

Write for full particulars to—

NILES & NELSON, INC., EXCLUSIVE DISTRIBUTORS
75 West Street, New York • 400 West Madison Street, Chicago, Ill.

Goodrich *Printers'* Rollers

PRINTING EQUIPMENT ENGINEER

TRADE-MARK REGISTERED U. S. PATENT OFFICE. ESTABLISHED 1910.

VOLUME 47
DECEMBER, 1933
NUMBER 3

DON WILL, Publisher

MAC SINCLAIR, Editor

A TECHNICAL MAGAZINE FOR PRINTING'S MECHANICAL EXECUTIVES

ASSOCIATE MEMBER NATIONAL PRINTING EQUIPMENT ASSOCIATION, INC.

This Issue Contains:

Some Technical Aspects of Printing - - - 7
B. L. Wehmhoff

Hints for Improvement of Pressroom Technique - 9
W. W. Hitchner

Hubbard's Composing Machine Maintenance Schedule - - - - - - - - - 10
Mac Sinclair

Latest Printing Equipment Mechanisms - - 12

Patent Activities for November - - - - 17

The Big Ideas in the NRA - - - - - - 22
R. O. Vandercook

Ludlow Executive Dies - - - - - - - 23

Catalogs, Books and Bulletins - - - - 24

Advertisers' Index - - - - - - - - 24

Annual Index for 1933 - - - - - 25

Let others also read The Engineer

After you have read this magazine pass it along to the other men in your organization. They will undoubtedly get helpful ideas from its pages.

Check in left column after reading. Note articles of interest.

☐ *Production Manager*

☐ *Mechanical Superintendent*

☐ *Composing Room Superintendent*

☐ *Chief Composing Room Machinist*

☐ *Monotype Department*

☐ *Photo Engraving Department*

☐ *Foreman Lithographing Department*

☐ *Superintendent Stereotype Foundry*

☐ *Superintendent Electrotype Department*

☐ *Superintendent Press Room*

☐ *Bindery Foreman*

☐ *Manager*

☐ *Purchasing Agent*

PUBLISHED MONTHLY AT
1370 Ontario Street • CLEVELAND, OHIO

Eastern Representatives: Wandless Associates, Inc., 522 Fifth Ave., New York, N. Y. Phone: Murray Hill 2-4972.
Western Representative: H. D. Aylsworth, Room 401, North Clark St., Chicago, Ill. Phone: State 3800.

Member Controlled Circulation Audit

Copyright 1933 by D. W. Will, Trade-mark Registered U. S. Patent Office; Single copy $.25; subscription price, $2.00 per year, in advance. Subscription rates for Canada and Foreign Countries on application. PRINTING EQUIPMENT ENGINEER is fully protected by copyright and nothing that appears in it may be reproduced either wholly or in part without permission.

Sure, She Can Punch The Keys

SHE'S an experienced typist . . . knows the location of the key for every letter . . . doesn't need to look at her keyboard . . . doesn't need to watch what she's typing. Barring interruption she might finish a two-page letter without error . . . might even do a bang-up job of spacing. Blind girls have done it.

However, if the blindfolded typist should make an error, and realize it, she would be put to considerable difficulty in making the correction. Hence, no sane employer would consider blindfolding his secretary.

Neither should he long ignore the opportunity to remove a similar handicap.

Yet, a comparable disadvantage exists in composing rooms not equipped with Black and White matrices. When it comes to seeing what they are producing line-casting machine operators might as well be blinded—because reference characters on ordinary brass matrices are quite difficult to read.

If the typist punches the "q" key a "q" will be printed on the paper. But if an operator touches the "q" key a "g" matrix may drop into the assembler . . . or two "q's" . . . or maybe none at all.

But it no longer is necessary to thus blindfold an operator—*furthermore, it's cheaper to let him see.*

A national survey shows that in every 100 lines of original machine composition six **(6%)** are reset because of errors—every seventeenth line is rebuilt. Assuming that only double time is necessary to correct **12%** (2×6%) of an operator's time is devoted to non-productive effort. Hence, in the average composing room, **18%** (6%+12%) of all operator-hours are spent in producing and correcting the lines which contain errors.

To this waste is added the time of proofreaders and floor men in detecting errors and placing corrections.

But the blindfold can be removed. It isn't necessary to rebuild every seventeenth line. By having your present matrices treated with the Black and White process—*making reference characters plainly visible in the assembler*—a significant proportion of error waste can be prevented.

This isn't just guess work. We *guarantee* a 25% reduction in all errors in original machine composition and *prove this saving* before you pay us a penny.

Matrix Contrast Corporation

Empire State Building New York City

Sole licensees of the Percy L. Hill Black and White Patent No. 1466437, held valid by U. S. District Court, Eastern District of New York. Infringers will be vigorously prosecuted.

PRINTING EQUIPMENT ENGINEER
1370 Ontario Street, Cleveland, Ohio.

Gentlemen:

Enclosed find ..... dollars ($2.00 each) for ..... subscriptions for 1934.
Send Christmas letter and the magazine to each of the following—

Name ..... Name .....

Address ..... Address .....

City ..... State ..... City ..... State .....

Name ..... Name .....

Address ..... Address .....

City ..... State ..... City ..... State .....

$2.00
Each Subscription

GIVER — Name .....

Address .....

City ..... State .....

A Worth-While Christmas Gift

A SUGGESTION TO MECHANICAL EXECUTIVES AND THE FRONT OFFICE

Here is a suggestion for a worth-while Christmas Gift for mechanical executives or the front office to present to junior executives and other men in your mechanical departments. Give them a year's subscription to PRINTING EQUIPMENT ENGINEER.

While only mechanical executives are entitled to receive PRINTING EQUIPMENT ENGINEER gratis, there is no reason why other men in your plant should not be reading this instructive and valuable magazine, thus helping themselves to further improve their work.

A subscription to PRINTING EQUIPMENT ENGINEER costs only $2.00 a year.

Please note on the reverse side the names and addresses of each man you wish to receive this gift and enclose $2.00 for each subscription.

Upon receipt of subscriptions we will write a Christmas letter to each man telling him of your thoughtfulness in sending him PRINTING EQUIPMENT ENGINEER for a year as a Christmas gift.

PRINTING EQUIPMENT ENGINEER
1370 ONTARIO STREET CLEVELAND, OHIO

PRINTING EQUIPMENT ENGINEER
DECEMBER, 1933

Some Technical Aspects of Printing

By B. L. WEHMHOFF*

PRINTING has frequently been described as the most fertile field for chemical research due to the wide variety of materials used in the different methods of printing and in the allied fields of plate-making and bookbinding. It is strange that, with all the possibilities, no really concerted effort toward research has been made in this country. The Lithographic Technical Foundation is the most outstanding research group in the printing industry in the United States. Other than that, work done by the American Newspaper Publishers' Association, the Employing Bookbinders' Association and the International Association of Electrotypers, and a few individual plants such as the Government Printing Office represents the total activities.

For several years past technical men allied with the printing industry have held annual meetings at which numerous resolutions were passed endorsing concerted research work. However, no definite steps were taken to actually carry out a program along the lines of the British Printing Industry Research Association or the German Forschungsinstitut fur das Graphische Gewerbe.

Technical men in other industries have their various associations which provide a means of exchanging ideas and developing standard methods of testing. Unfortunately no such association exists in the printing industry, due probably to the fact that there are but few technical men in printing work. As a result no standard testing methods have been adopted. The tests used in industries supplying raw materials to printing plants are those most frequently used, although such tests often fall far short of yielding the information desired.

This is particularly true of paper testing. The Technical Association of the P. & P. industry has over a period of years developed standard paper testing methods which will give the paper maker the information necessary in the manufacture of his product.

PAPER-MAKERS' TESTS OF LITTLE VALUE TO PRINTER

These tests, although admirably adapted for use in paper making, yield but little information of value to the printer. As a result most large printing plants, particularly those using a variety of papers have developed tests which will indicate to some extent the printability and also the probable ink consumption of the paper. Since each plant developed its own tests, there is no uniformity in the methods now used to indicate those properties of paper.

SUFFICIENCY OF ROLL PAPER TENSILE STRENGTH

The bursting strength or Mullen test, a standard test in the paper industry has no real meaning to the printer of such ephemeral items as catalogs and the usual run of magazines. This test is an indirect measure of tensile strength and is being supplanted to some extent by a direct tensile strength measurement. The argument has been advanced that users of roll stock should be interested in the tensile strength of the paper, as that would indicate whether the paper had sufficient strength to withstand the pull on the press without the web breaking. Actually, from tests made on newsprint, the paper having the lowest tensile strength of some two hundred representative samples had sufficient strength to withstand from

THE NEED OF RESEACH IN THE PRINTING INDUSTRY

Man cannot stand still, consequently the tools with which he works must be the subject of a never-ending quest for the attainment of perfection.

In this article Mr. Wehmhoff discusses the lack of centralized research work in the printing industry. Development of standardized paper-testing methods and equipment applicable for use in the commercial plant are needed particularly. The problem of offset has been partially solved by introduction of offset-preventing equipment. The need for other desirable improvements are also noted.

*Technical Director, The W. F. Hall Printing Co., Chicago, Ill.

12 to 15 times the maximum pull exerted on the press, even when the rolls were changed by a flying paster. It seems evident therefore that the factor of safety in roll paper strength is high enough that the printer has no need of measuring tensile strength. Any paper strong enough to pass through the paper machine has ample strength to meet all press requirements.

Web breaks can be traced to

(1) Defects in the paper, causing weak spots, particularly on the edges.
(2) Paper too dry, making it brittle.
(3) Improperly wound rolls.
(4) Poor tension adjustment on the press. And of these four, the first is by far the most prolific.

It is evident that no laboratory strength test will show in advance any of these probable causes of web breaks except possibly excessive dryness.

FOLDING ENDURANCE AND TEAR RESISTANCE TESTS

Folding endurance tests are indicative of the probable service of cover papers for magazines and similar publications. Tear resistance tests are claimed to give similar information, but in either case the information is of no great practical value. For some kinds of printing, such as insurance policies, blank forms intended for more or less permanent use, such tests are of considerable value. Fiber composition analysis and acidity of paper are both of importance in paper intended for semi-permanent or permanent use.

By far the great bulk of paper, however, is used for strictly temporary purposes. Newspapers, cheap editions of popular books, catalogs, and magazines make no claims for permanence. The printer of such papers is interested in printability, appearance, ink consumption, and amount of makeready required.

PRINTERS' INABILITY TO EXPRESS HIMSELF THROUGH STANDARD TERMS

Laboratory tests to indicate one or more of these characteristics have been worked out to some extent in several plants, but no standard tests have as yet resulted. Under present conditions a printer may complain to the paper maker that the ink consumption is excessive, or that the paper surface varies in different parts of the shipment, or that the ink does not "lay" properly, or that the surface "picks." He cannot define in numerical terms the quality he desires, and state, also numerically, the extent to which the desired quality or uniformity is lacking. Even differences in thickness of paper affect the quality of the printed job. Until quite recently there was available no instrument which would conform to the specifications outlined in the T.A.P.P.I. Standard Testing Methods and measure the thickness of paper to the desired accuracy.

Among the tests in most of which the results can be expressed numerically are, smoothness of surface, rate of initial ink absorption, ink susceptibility, hardness, and resistance to picking. Density tests have been standardized by the paper industry and the results so far obtained indicate a definite relationship between density and ink susceptibility.

TWO NEEDED TESTS

Color of paper, particularly white papers, is another factor for which some definite method of stating the required shade is needed. Numerous instruments and charts have been devised to meet this need, but due to their cost, or to complexity, none so far has met with general approval. Variations in shade of white paper are usually not sufficient to cause trouble in black and white work, but their effect on color printing is often remarkable. Various methods of measuring the resistance of paper to "picking" have been suggested. The most common of these is the "wax test," but indications are that it falls short of the requirements and also that it is difficult for two operators to check each other.

Continued on page 13

O. W. Butts Retires— Succeeded by O'Connell

O. W. (Bill) Butts, who has been associated with the mechanical side of the Chicago *Daily News* for forty-five years, retired from active duty early in November under the *News* pension plan. It is reported he will spend the winter in Florida. Mr. Butts has been superintendent of the composing room since 1915. At the age of fifteen he started to work for the Kankakee (Ill.) *Times*, a weekly newspaper in his home town. At the age of seventeen he came to Chicago and in August, 1888, went to work as an apprentice for the old Chicago *Morning News*. In 1893 he transferred to the evening side and became assistant foreman of the composing room in 1900, foreman in 1910 and superintendent in 1925.

Mr. Butts bears a well-earned reputation as a most successful composing room executive. His executive abilities were best demonstrated when it became necessary to be prepared for any of the frequent emergencies which arise in the mechanical side of a daily newspaper.

Mr. Butts has been succeeded as superintendent of the composing room by Dave O'Connell who has been connected with the *News* approximately fifteen years, the last eight years of which he has been first assistant to Mr. Butts. His career in the printing industry commenced when he became an apprentice in the plant of the Joliet (Ill.) *Journal-News*, in 1903, at which place he worked for a period of fifteen years. He then came to Chicago where he immediately found employment at the *News*.

Mr. O'Connell's many friends in Chicago as well as those in various parts of the country will be pleased to hear of his advancement on the mechanical executive staff of the Chicago *Daily News*.

THE UTILITY OF PROOF PAPER, WHITE WASTE AND MEMORANDUM PADS

PRINTING EQUIPMENT ENGINEER wants you, its mechanical executive readers to feel that this is your magazine. It is edited for you exclusively.

We are always pleased to print news about mechanical executives. If an executive changes his position or his plant equipment has been amplified by reason of increased volume of production or because of entry into a new branch of the business, other mechanical executives will be glad to know about it. Any activity concerning mechanical executives is proper news for publication in this magazine. Technical data concerning improvement of production or mechanical methods will be accepted gladly. When you discuss these things in PRINTING EQUIPMENT ENGINEER it is exactly the same as though you were talking to a friend of yours in an informal way from your own printing plant.

Please do not feel diffident about submitting anything which you think would be of interest to others serving in the same capacity as yourself. These men have the same interests and problems as yourself. The things which interest you will also interest them.

The average mechanical executive dislikes the formality of waiting for the slack time of day when the stenographer may not be busy. Write while you are in the mood on any kind of paper with pencil—this kind of copy is just as acceptable as formal typewritten manuscript—then send it to

Mac Sinclair

Editor.

Hints for Improvement of Pressroom Technique

The Setting of Color to Obtain Even Appearance of More Than One Signature Discussed by Writer—Benefits of Metal Base Explained

By W. W. HITCHNER*

IN MANY pressrooms too much time is spent moving guides and grippers. There is no necessity for moving anything for an ordinary size sheet. The form should be set to fit the guides when the guides are properly set. The delivery should be set and the ink should be put in the fountain before the final make-ready is hung on the cylinder. The setting of the reels for the proper delivery of the sheets should be done when setting the guides. There is usually too much time wasted in setting the delivery and fountain after the make-ready has been completed.

There is no detail that adds more to the finished product than that of even color. Many pressmen fail in this important feature. Often when the job is thoroughly made-ready, the color is neglected and when the different signatures are gathered they look like separate jobs instead of being uniform.

It is probable that there is nothing in the manufacture of printing inks which is less understood by the majority than the question of driers.

There are really two kinds of drying upon which typographical printing ink depends. These namely are, absorption and oxidation according to the class of work for which inks are intended, they must be made to dry either by absorption or oxidation or by the two combined. Linseed oil which is the base of all good inks, is a drying oil, but in the raw state the drying is a matter of days. This, of course, would not do for printing ink where the product must be handled in a few hours or the following day. Certain metallic bases and salts, principally those of lead and manganese, have the property of accelerating drying. Cobalt compounds and lead and manganese are the two chief driers used, although the property of drying has been claimed for a variety of other materials.

No definite figures can be given as to the correct amount of drier to use; this must be studied and worked out for each particular case. Some pigments possess considerable drying properties, while others retard drying.

In addition, the temperature and the humidity of the pressroom, the quality and kind of paper, speed of press, and the kind of inks, must receive due consideration in determining the quantity and kind of drier to be used. In most cases the ink must dry rapidly but not so rapidly that it will dry on the press. When printing color work with process inks these inks must dry slowly to prevent sticking and crystalizing. Under the circumstances it is more a matter of constant experiment than anything else.

The handling of the ink is a vital matter, both as to volume of production and the quality of the printing. Pressmen should have a general knowledge of ink and paper. Often it is the case that the ink will not dry because of the unfavorable action of chemicals in the ink or paper. Again, the ink will dry perfectly on a stock with a certain kind of coating, but the same ink with another kind of coating will not dry properly. On news stock, or other very absorbent stocks it is solely upon absorption that we depend for our drying. When it comes to super-sized or calendared stocks and coated papers, the drying is partly due to absorption and partly to oxidation.

Only by constant attention and care in keeping all equipment in the best of condition can the highest production efficiency be reached.

Continual inspection is important. Any part that is found worn or broken should be replaced at once or repaired.

DIVIDENDS FROM ODD MOMENTS

Keeping the presses clean by a little effort at odd moments will pay big dividends, for a dirty press invites trouble. Not only should the machinery be kept clean but the entire pressroom should be kept clean and orderly. An executive cannot expect clean printing unless the men's surroundings are clean.

The quality of a large percentage of color work turned out in many of the medium size and smaller printing plants is greatly reduced by improper mounting of the plates. This is also true of some large, though poorly equipped plants.

Plates for all color work, in fact, all electrotype forms should come from the electrotyper unmounted and backed up to be worked on metal base if good work and efficient handling of the forms in making ready and running are to be demanded of the pressman.

Printing plates were first mounted on wood and this material is still extensively used for the purpose because of the ease with which it can be shaped to proper dimensions, its cheapness, apparently, and because of the fact that the plates can be easily affixed. Wood is very porous and fibrous. It yields and therefore will not stand up under the pressure necessary to impress the image into paper. It is susceptible to atmospheric conditions and will expand or contract while in the form. This yielding of the base on which the cut is mounted is, of course, a well recognized cause of frequent stopping of the press during the run and time lost in interlaying, or, should this be neglected by the pressman in order to get the form started quickly, of excessive overlaying with the attendant troubles.

Wood base has no place in any plant that is endeavoring to turn out good or even medium class color work. Of all the things required in making ready a good job of color work, the proposition of registering one color on the other is no doubt the most important. No matter how well the plates are made; how good the paper, or how carefully and skillfully the form is made ready, if the register is poor the effect of those other conditions are almost wholly lost. Constant register cannot be maintained when the form is made up of yielding units, therefore metal has superseded wood, not only for mounting the plates but also for filling all spaces between them.

Metal bases admit of quick interlaying between the plate and the base or what we would term underlaying; quick and better make-ready, greater production and better register.

By the register hooks and metal base method the plates can be interlayed correctly and swiftly. They rest solidly on this

Continued on page 15

*Superintendent of Pressroom Production, The Robt. O. Law Company, Chicago, Ill.

Hubbard's Composing Machine Maintenance Schedule

As Employed in Composing Room of Boston Herald and Traveler—Keeps Plant of Forty-six Mixer Machines in Condition

By Mac Sinclair

James F. Hubbard, Chief Machinist, Boston Herald and Traveler *Composing Room.*

Continuing our plan to publish from time to time detailed maintenance schedules devised by chief machinists of composing machine plants throughout the country, it is our pleasure to present the schedule employed in the plant of the Boston *Herald* and *Traveler*. James F. Hubbard, chief machinist, states that this schedule is arranged for a plant publishing an evening and a morning paper. The battery consists of forty-eight Linotype machines, forty-six of which are of the mixer type. This statement together with a close perusal of Mr. Hubbard's maintenance schedule will give the reader some idea of the necessity for a well-planned program for maintaining a productive "type foundry."

No one item is more conducive to successful composing room operation than a well maintained battery of composing machines from which the superintendent may feel confident of securing the full amount of production. Under the plan of a controlled maintenance schedule intelligently administered by a responsible chief machinist, the superintendent is free to devote his executive energies to other major problems.

With the encouragement and counsel of the superintendent the planning and execution of a maintenance schedule by the machinist does much to assure the reputation of the superintendent as an efficient executive.

Many complaints about the quality of slugs or type coming from the machines can be eliminated automatically simply by the chief machinist adding the proper corrective measure to the work schedule. In one plant this may consist of setting down the items which will insure that the mold faces shall be scraped, all mold wipers given attention and all base trimming knives checked at proper intervals so that slugs will be of uniform height. In another plant a source of annoyance may be imperfect faces which can be eliminated automatically by adding to the schedule those operations which will insure clear letter characters. Length of line, body size of slugs, machine stoppages due to insufficient attention being given to magazines, keyboards, transfers and distributor boxes can also be kept under control.

The maintenance schedule worked out by Mr. Hubbard is given below:

Daily

Turn machine to casting position, lower vise to second position, remove any chips which may have entered recesses of mold disk stud aligning blocks, brush or blow out all metal chips which have settled on different parts of vise.

Scrape faces of molds and vise jaws with brass rule, then wipe off with cloth.

Wipe off face of justification bar which comes in contact with bottom of spacebands.

Lubricate, sparingly, back mold wiper. For this purpose use a mixture of tallow and graphite.

Polish spacebands.

> *More and more, composing room executives are demanding flexibility (instantaneous operating accessibility) from composing machines. In other words, the machine must be simplified in operation during productive hours. Flexibility brings complication to machine parts. This in turn creates a broader maintenance problem for the plant machinist, who should go along with the spirit of things and maintain each unit in such a way that the anticipated production may be obtained.*

Brush out mouthpiece vents with soft wire brush, using an up-and-down motion—not crosswise.

Measure slugs for height and point size.

Dust off machines.

Every Other Day

Clean plungers, brush out wells and clean pot well port holes.

Weekly

Clean and oil distributor boxes.

Oil bearings on the faster moving parts of machine: Main driving pulley, distributor conveyor screws, distributor driving mechanism, assembler driving mechanism and keyboard roller bearings.

In this oiling a small bicycle oil can is used. This type of can allows one small drop to pass from spout when pressure is applied to both sides of can. One drop is applied to all bearings of above mentioned parts.

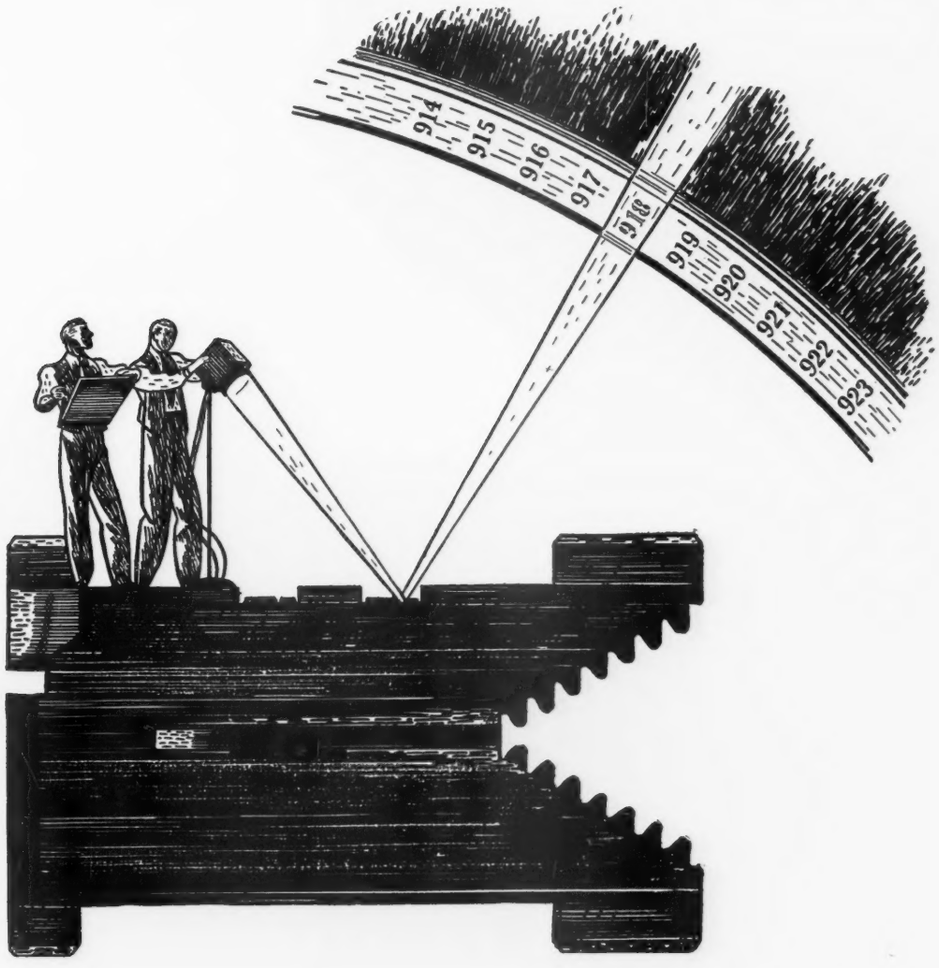
The first operation in this oiling consists of removal of distributor boxes. The distributor conveyor screw bearings are then oiled and the distributor allowed to run forward and in reverse while the cleaning of

Continued on page 19

IT'S THE FACE THAT COUNTS

TRADE **LINOTYPE** MARK

A Needle of Light Measures the Depth



Flashing light rays check with uncanny precision the depth to which the character is punched in each Linotype matrix. So accurately is the punch-depth controlled that no Linotype character will differ from its neighbor in height by more than an eighth the thickness of a sheet of tissue.

That may seem like splitting a hair pretty fine; but every Linotype matrix must be made on the assumption that it will be used by the most particular printer on his most exacting work . . . so many of them are.

An executive of one of the world's most famous watch factories declared, after a visit to the Linotype plant, that a Linotype matrix costing only a few cents was made to finer standards of precision than many of their expensive watches.

Linotype Bodoni and Metro Families

MERGENTHALER LINOTYPE COMPANY, BROOKLYN, N.Y.

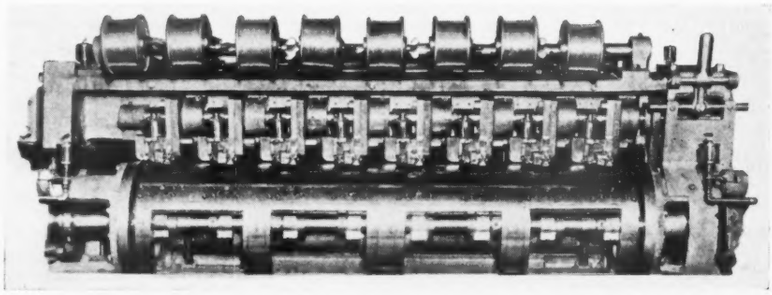
San Francisco · Chicago · New Orleans · Canadian Linotype, Limited, Toronto, Canada
Representatives in the Principal Cities of the World

Latest Printing Equipment Mechanisms

New Hoe Super-Production Rotary Stitcher

R. Hoe & Co., Inc., New York, N. Y., has developed an improved Heavy-Duty, High-Speed Rotary Stitcher incorporating greater rigidity, precision and simplicity for operation in conjunction with such high-speed presses as its recently developed line of Super-Production Presses.

The most important improvement embodied in this newly designed stitcher is that of the continuous worm drive wire feed, which heretofore has been of the intermittent ratchet motion type.



View of Hoe Heavy-Duty, High-Speed Rotary Stitcher as Installed on High-Speed Magazine Presses in U. S. Government Printing Office, Washington, D. C., and in the Christian Science Publishing Society Plant, Boston, Mass.

This change, it is claimed, eliminates variations in wire cut-off and insures uniform staples at high speed. Change gears are employed to alter the rate of wire feed for different product collections and by the simple means of throwing a clutch the feed may be started or stopped while the machine is in operation.

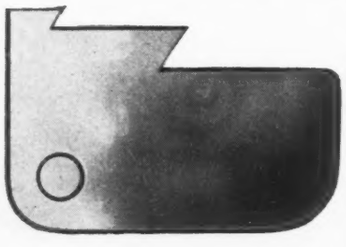
New simplified solid dies are used for clinching the staples. In addition to the higher speeds obtainable, these solid dies form staples of the loop type, the ends of which are embedded in the paper, doing away with the possibility of readers having their fingers scratched by a protruding end of a flat stitch.

The stitching plungers are carried in a rigid cylinder running in preloaded bearings and the heavy plunger operating shaft and cam roller are carried in needle or full-type roller bearings. The plunger operating cam which is readily adjustable, is made of a special heat-treated bronze and has been designed so that speed of operation cannot affect the clinching of the staples.

In the accompanying illustration is clearly shown the massive brace carrying the horn brackets and feeding mechanisms. The horn brackets are designed so as to be as stiff and short as possible to eliminate vibration at the clinching point which is essential in a high-speed device of this kind.

This newly-developed Stitcher is incorporated not only in new presses built by Hoe, but, it is also claimed, is adaptable for attachment to existing presses now operating in the field and is made in various multiples to suit specific stitching requirements.

Sterling Hand Beveler

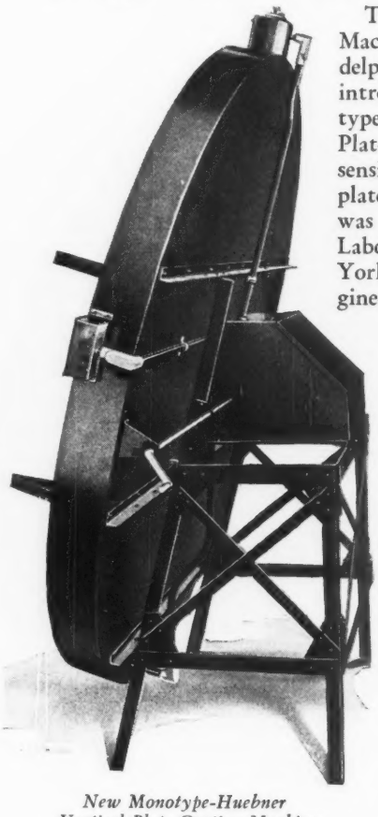


Printers using unmounted printing plates will be very much interested in the Sterling Hand Beveler. At times it is necessary to bevel odd-shaped plates which cannot be practically beveled on a shute board. When this occasion arises the Sterling Hand Beveler can be used. The beveler is supplied for the 20 deg. regular bevel and is manufactured by the Printing Machinery Company, 436 Commercial Square, Cincinnati, Ohio.

Money-Saving Item for Pressroom

A money-saving plan for the pressroom doing a considerable amount of color printing is to have an extra set of good rollers set aside to be used only when printing the light colors such as yellow and red. This will save considerable time which would otherwise be spent in trying to get a clean print with old or dirty rollers.

Monotype-Huebner Vertical Plate-Coating Machine



New Monotype-Huebner Vertical Plate-Coating Machine

The Lanston Monotype Machine Company, Philadelphia, Pa., announces the introduction of the Monotype-Huebner Vertical Plate-Coating Machine, for sensitizing offset press plates. The new machine was developed by Huebner Laboratories, Inc., New York, N. Y., and was engineered and manufactured by the Monotype Company at Philadelphia.

The new Monotype-Huebner Vertical Plate-Coating Machine introduces a new fundamental principle in coating press plates. By rotating the press plate in a plane which is practically vertical (15 deg. from the perpendicular), gravity and centrifugal force are combined to distribute the sensitizing solution evenly over the surface of the plate. The Monotype Company claims this new method of construction and operation, together with the arrangement of electric heating units and ventilating fan, produces a condition under which the solution is more evenly distributed over the entire surface of the plate and is dried quickly and thoroughly in much less time than has been possible heretofore.

The company is authority for the statement that the improvement in quality of the plate coatings, the savings in the amount of sensitizing solution used, of time spent in coating and drying the plate, and of floor space necessary to operate the machine, all result in savings which will soon pay for the new equipment.

The accompanying illustration shows a side view of the new Vertical Plate-Coating Machine. It is made in five sizes,

Continued on page 16

Some Technical Aspects of Printing

(Continued from page 8)

PAPER UNIFORMITY IS ESSENTIAL

Uniformity of paper is essential if good quality and production of printed work is to be attained. Variations in shade, surface, ink absorbency and thickness all absorb their toll of profit and quality. An example is a case in which a job was made ready for printing an enamel paper having a smoothness of 550 seconds as measured by the Bekk tester. For several hours the press operated at standard speed, and then the halftones became "mealy," resulting in lost press time until it was found that the paper on which the trouble occurred had a smoothness of but 380 seconds. Another skid load of paper proved to be equal in surface to that used earlier and was used in finishing the job. Variation in smoothness of the paper in this instance caused the loss of an hour's time on a press having a crew of three men.

With the printer and the paper maker having no standard testing methods by which they could measure paper printing quality, improvement in printing papers has been largely the result of "Cut and Try" methods. It is hoped that in the near future definite methods of measuring printing quality will be developed to a point where their adoption as tentative standards by the T.A.P.P.I. will be warranted.

CO-OPERATION BETWEEN STAFFS IS ESSENTIAL

Cooperation between the technical staff of printing plants and of paper manufacturers is essential in the development of standard tests which will measure definitely the printing characteristics of paper. Paper technicians are greatly interested in the subject, as is evidenced by the activity of the various committees of T.A.P.P.I. dealing with printing and related subjects, and the cooperation given to the technical men in printing plants. The development of standard testing methods for printing quality of paper can be successfully carried out only by cooperative effort between the technical staffs of the printing and paper making industries, and since the paper industry has a well organized technical association, it is but logical to assume that the work will be done through that association.

LABORATORY PROBLEM

Development of testing methods, while essential, is more of a laboratory problem than printing research as commonly considered. Among the factors entering into printing on which work has been, and is being done in several plants is the application of various types of synthetic resins in the manufacture of press rollers, printing plates, and in compounds for electrotype molding. Some synthetic resins have already met with considerable success in the manufacture of printing inks.

THE PROBLEM OF OFFSET

Another problem of prime interest is the prevention of offset. This can, of course, be minimized by the proper relationship of ink and paper, but since high-grade printing inks contain considerable quantities of linseed oil, oxygen is necessary to drying, and the sheets of paper must be kept slightly apart until oxidation has partly taken place. The wax spray process proved a great aid in color printing, particularly where all colors are applied to the sheet at one time through the press. It cannot be used, however, at an intermediate stage. If a four-color job is being done on two two-color presses, the wax spray cannot be applied to the first two colors. Recent developments in offset-preventing equipment indicate that the problem, if not completely solved, is at least well started in that direction.

NEED FOR SIMPLIFICATION OF PLATE-MAKING

If letterpress printing is to compete with offset, simpler methods of platemaking must be evolved, or the present

Only the

FIRST PAPER OUT

is a **NEWSPAPER**

WHAT the public knows already from your rival is nothing to shout about. Many an office THINKS it is publishing a newspaper, but the street corners tell a different story.

Certified Mats are a big help in putting such an office in the newspaper business. They are dependable time-savers during the critical rush hour. They mold easily and perfectly, scorch in 30 to 60 seconds, according to conditions. First casts can be used with confidence that they are good.

These mats, with the uniformity that avoids spoilage, are accelerating operations and smoothing the routine in many offices now using Certifieds. Why not yours?

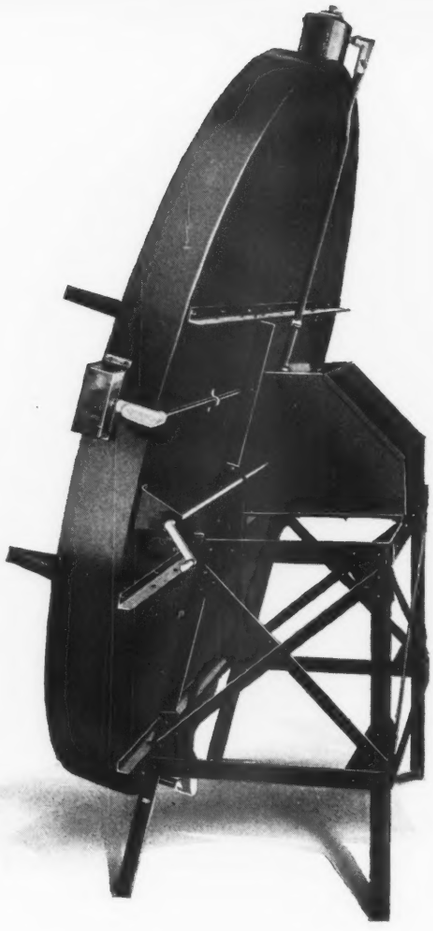
For dependable stereotyping use Certified Dry Mats.

Made in U. S. A.

CERTIFIED DRY MAT CORPORATION
338 MADISON AVENUE NEW YORK, N. Y.

Certified
DRY MATS

VERTICAL
Plate-Coating Machine



REVOLUTIONARY
improvement in methods of sensitizing offset press plates

■ The design and production of this New Monotype-Huebner Vertical Plate-Coating Machine is our first step in a comprehensive and definite program which has for its purpose the improvement of Photo Mechanical Equipments and Processes used in Offset and Gravure Printing.

■ This machine introduces a new fundamental principle in sensitizing methods for making Offset press plates. Its construction and method of operation act to distribute the sensitizing solution evenly over all sections of the plate, and to dry it quickly and thoroughly, in much less time than has been possible heretofore.

Startling Performance!

As compared to machines of the horizontal type, this new Vertical Plate-Coating Machine produces press plates from which a greater dependable number of impressions can be printed on Offset presses; uniform sensitized coatings are obtained with one-half the solution formerly used; coatings are thoroughly dried in half the time previously required, and less than half the floor space occupied by horizontal machines is used. A folder illustrating and describing this new plate-coating machine, and listing its advantageous features, will be sent to all those who write for it on their company letterhead.

Lanston Monotype Machine Co.

Monotype Building, 24th at Locust Street, Philadelphia, Pa.

Will Pay for Itself in the Savings It Makes!

Composed in the Monotype Rockwell Antique, No. 189 Series.

cheaper plates, stereotypes, must be improved until they will consistently produce as many good impressions as nickel-types.

EXPLORATORY WORK FOR TYPE METAL ALLOYS

Type metals have been of certain compositions for each of the various purposes. Who can say but that the addition of even a small percentage of some of the rarer metals will not yield an alloy superior to the usual lead-tin-antimony alloy? It is within the realm of possibility that a two-metal alloy might be found which would be superior to type metal as now known.

THE STATUS OF OFFSET

Considerable research is being done in various countries on offset printing. For years inventors have dreamed of the photo-composing machine, and thousands of dollars have been spent in efforts to perfect such a machine. Little or no success has thus far been attained, but recent inventions show considerable promise, and when success is finally attained, a great impetus will be given to the offset industry.

An apparently worthwhile contribution to the offset field has been developed and is being tested by a prominent press manufacturer in this country. It is said to eliminate dampening rollers and fountain etch and the limitation of the quantity of ink which can be used.

NEED FOR IMPROVED METHOD OF APPLYING PRESSURE TO CURVED PLATES

Make-ready is a prolific source of expense in printing, and a considerable number of pre-makeready methods are finding favor. The application of pre-makeready is essential in four-color printing on presses of the McKee type where one impression cylinder is used for all colors. Most of the methods involve plate treatment. In some cases the treatment is applied to the plate before it is curved while in others the plates are first curved. The application of treatment to the plates before curving is open to the objection that curving removes the treatment to some extent. On the other hand, applying treatment to the curved plate by the present methods does not permit of uniform pressure at right angles to all parts of the plate surface. There is need of development of better equipment for applying the pressure to curved plates.

PRECISION PROCESS IN PRESS BUILDING

Precision in the manufacture of printing presses, using the highest quality of steel will aid materially in lessening make-ready time. Much progress has been made by press manufacturers in recent years, but there are many presses now in operation, and which will be in use for years to come, which were not built by precision methods, and on which any improved pre-makeready system will be of value.

FACTORS WHICH MAY BE IMPROVED

There are many other factors in the printing industry which could be improved upon. Rollers, for instance, still cause trouble. Tympan paper on web presses, necessary under present conditions, is expensive, and its use detracts from the quality of the printed sheet with which it comes in contact. The list could be prolonged almost indefinitely, but solution of even the few problems mentioned will tax the ingenuity of printing plant technicians for some time to come.

Hints for Improvement of Pressroom Technique

(Continued from page 9)

unyielding base which eliminates the rocking entirely, so often the cause of plates being worn after a few thousand impressions have been taken. The register hooks admit of the

LUDLOW Heads the List as a Money-Labor Saving Device

DURING the 25 years of my connection with the Washington Post it has been the policy of the mechanical departments of the paper to take advantage of all improvements in printing methods and machinery. In pursuance of this policy the Ludlow system was installed ten years ago.

In my opinion, the Ludlow should head the list as a money-labor saving device, not to mention its many other points of merit.

The Washington Post was the first paper in Washington to use the Ludlow system.

GEORGE W. BRANDT
Foreman of the Composing Room
THE WASHINGTON POST

Ludlow Typograph Company
2032 Clybourn Avenue · Chicago, Illinois

Set in Ludlow Bodoni Bold and Bodoni Black with Elrod rules

BURGESS CHROME MATS

What Happened? Who Did It?

FOUR short years ago something happened to the dry mat industry.

Trained laboratory men developed a new mat that produced astonishingly better printing results—with greater consistency and greater uniformity.

Then you men in the stereotype rooms literally changed over the industry.

You turned to this New Laboratory-developed Burgess Chrome Mat because it had what you wanted.

And that is still the idea behind our laboratory work today. What we learn is the property of you men—who are our partners in developing better printing.

Tell us your problems—we'll tell you all we know about their answers.

•

THE CHROME FORMULA

The Chrome Mat Formula gives Burgess Chrome Mats their superior printing characteristics—makes them easier to handle — reduces troubles —cuts costs.

•

BURGESS CELLULOSE COMPANY
FREEPORT, ILLINOIS

CHROME MATS

A Laboratory Product

BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

plates being easily moved into position and insure being held there throughout the run.

The initial cost of plate-mounting equipment may seem rather high to the average printer, but the time saved will more than make up for the outlay. Besides this very evident fact, just take into consideration the improvement on the quality of the work and that the importance of the two most valuable things in your department have been increased.

Quality plus quantity equals profit—a thing most vital to the success of any firm.

When an ink crystalizes, a good remedy is to make up a compound composed of the following formula: To every five pounds of ink melt five ounces of equal parts paraffine wax, beeswax and a good paste dryer. The ink must be heated until hot, but do not allow it to burn. The melted compound is now mixed into the hot ink. This will make the last ink take properly.

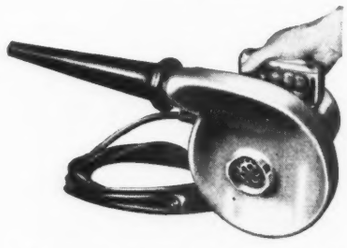
Latest Printing Equipment Mechanisms

(Continued from page 12)

the largest of which will accommodate plates up to 55 by 67 in.

The Monotype Company has issued a folder in which the Monotype-Huebner Vertical Plate-Coating Machine is described and illustrated. A copy of this folder will be sent to all those who write for it on their business letter-head to the main office of the company at 24th and Locust Streets, Philadelphia.

Tornado Model 10 Blower



The Breuer Electric Mfg. Co., 852 Blackhawk St., Chicago, Ill., announces a new Tornado Model 10 portable electric blower, for blowing dust out of motors, machines, and parts of all kinds, vacuum-cleaning bins, stock rooms or space that collects dust or dirt, and for spraying insecticides.

It is claimed that tremendous power in small space together with a light-weight instrument gives this new blower a wide range of usefulness. The 1 h.p. ball bearing motor, combined with a specially designed fan, gives 46½ in. water lift.

Twenty-Five Years of Service

PRINTING EQUIPMENT ENGINEER is in receipt of copies of the first two numbers of the Anniversary Progress Week editions of the *Christian Science Monitor,* published from its new plant in Boston.

Comparable to present-day architecture with that of twenty-five years ago, the Anniversary Week editions of the *Monitor* reflect the progress which has taken place in newspaper making through better typography and the perfection of the various mechanical processes, all of which are vital to the appearance of our modern newspapers.

An interesting feature is the reproduction each day during the week of two pages of the first 12-page issue of the *Monitor* published twenty-five years ago—Nov. 25, 1908. A rotogravure section accompanies each edition, the first of which is done in color and black. A generous quantity of pictorial material gives information relative to the making of the *Monitor* as well as historical and descriptive data about the new building and mechanical equipment.

PRINTING EQUIPMENT ENGINEER congratulates the Society upon its publishing attainments.

Patent Activities for November

Method and Means for the Prevention of Smutting and a Method of Accurately Shaping Printing Plates Among the Patents Granted

Printed Copies of Patents Are Furnished by the Patent Office at 10 Cents Each. These May Be Obtained by Addressing Commissioner of Patents, Washington, D. C.

1,931,485. PRINTING COMPOSITION. Amerigo F. Caprio and William Bowker, Newark, N. J., assignors to Celluloid Corporation, a corporation of New Jersey. No drawing. Application September 24, 1930. Serial No. 484,232. 9 Claims. (Cl. 101 — 40.)

1. A fluid printing ink suitable for printing cellulosic plastics containing 100 parts low viscosity cellulose nitrate, 200 parts dimenthyl phthalate and 75 to 200 parts pigment.

1,931,749. METHOD OF AND APPARATUS FOR TREATING STEREOTYPE MATRICES. Carl M. Bigsby, Compton, Calif. Application January 19, 1932. Serial No. 587,531. 12 Claims (Cl. 34 — 16.)

1. In a machine for treating stereotype matrices, a rotatable member having a heated cylindrically concave curved face at least approximately concentric with respect to the axis of rotation of the member, means for imprisoning a matrix against the face comprising a flexible element having appreciable mass per unit of surface area adapted to be positioned against the inside face of the matrix, and means for revolving the assembly comprising the rotatable member and the matrix and element every portion of the flexible element being equally free to move in a radial path.

1,932,055. SLUG ROUTER. Gustaf E. Wallin, Omaha, Nebr. Application March 29, 1930. Serial No. 439,954. 7 Claims. (Cl. 90 — 18.)

7. In a slug-routing machine, a galley having a bottom portion and a longitudinal side-rail, a clamp-rail extending parallel with the side-rail and movable laterally thereof to clamp sidewise between the rails a plurality of parallel type-line slugs each resting upon the bottom portion of the galley and with the upper edge of each of the slugs exposed, a bar extending transversely of the galley above the slug-receiving space therein and mounted for movement toward and away from the slug-receiving space, actuating means for moving the bar to engage simultaneously the upper edges of the type-slugs extending thereunder, and means for retaining the actuating means in position for maintaining clamping pressure of the bar edgewise of the slugs toward the bottom portion of the galley.

1,932,153. METHOD IN THE MANUFACTURE OF CATALOGUES, PAMPHLETS, OR THE LIKE WITH SLANTING OPENING EDGES. Josef S. F. Bergendahl, Gottenborg, Sweden. Application March 23, 1933. Serial No. 662,309, and in Sweden August 5, 1931. 3 Claims. (Cl. 281 — 15.)

1. The manufacture of books, pamphlets or the like provided with a sloping reference or index edge, which consists in stacking leaves on a flat support provided with a straight edge and with a part of the stack projecting beyond the straight edge, bending the projecting part of the stack over the straight edge of the support to slope the free edge of the stack on the support during the bending of the stack, and cutting through the part of the stack imposed on the support along a line parallel to the straight edge.

1,932,238. DEVICE FOR FEEDING USED STEREOTYPE PLATES INTO A MELTING POT. Carl Winkler, Bern, Switzerland. Application October 10, 1930, Serial No. 487,767, and in Germany October 24, 1929. 3 Claims. (Cl. 22 — 80.)

1. In a stereotype plate casting machine, having a melting pot, a mold adapted to be moved into and out of operative relation with the melting pot, operating means for the mold and conveying means, including a series of upwardly extending endless chains, for feeding used stereotype plates or the like to the pot, the combination of mechanism including a train of gears associated with the operating means to move the conveying means a predetermined amount by the actuation of the mold.

1,932,336. TYPE BINDING MEANS. Laurence A. Costigan, Philadelphia, Pa. Application December 15, 1932. Serial No. 647,438. 2 Claims. (Cl. 276 — 40.)

1. As a new article of manufacture, a binding tape holder comprising a substantially L-shaped device embodying right-angularly disposed bars, the inner faces of the bars being formed with relatively narrow tape seating grooves, the grooves corresponding in width to the width of the tape, and resilient retaining clips carried by the bars and depending into the upper edge portions of the grooves for releasable engagement with the tape.

1,932,366. MATRIX ASSEMBLER. Samuel E. Sperry, Hollis, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application May 10, 1933. Serial No. 670,354, and in Germany May 24, 1932. 8 Claims. (Cl. 199 — 30.)

1. In a matrix assembler for typographical machines comprising assembling devices for assembling matrices in a line, an assembler slide to receive the matrices and to be advanced thereby while being assembled, means for driving the assembling devices including means for controlling the operation thereof, means acting to return the assembler slide, and a brake controlling return motion of the slide, means governed by the controlling means for the driving means for releasing the brake to permit return motion of the slide.

1,932,580. CASTING MACHINE FOR HEMICYLINDRICAL PRINTING PLATES. Hanns Fritz, Wurzburg, Germany, assignor to "Schnellpressenfabrik Koenig & Bauer, Aktiengesellschaft," Wurzburg, Germany. Application April 4, 1932, Serial No. 603,172, and in Germany November 24, 1930. 18 Claims. (Cl. 22 — 2.)

1. In a casting machine for hemicylindrical printing plates, a stationary vertical mold, a casting core, means for reciprocating the core in a straight line from operative relation with the mold to a delivery position and back again, and means for rotating the core about a vertical axis during its travel from one of the positions to the other.

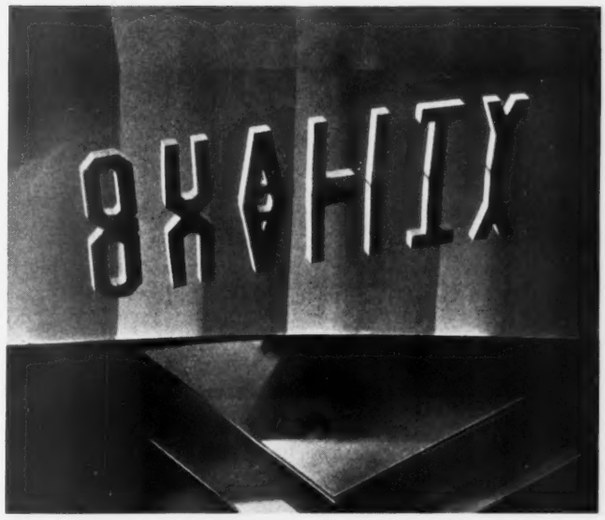
1,932,583. AUTOMATIC CONTROL FOR HYDRAULIC MATRIX MOLDING DRYING PRESSES. Willibald Hamburger, Zell, near Wurzburg, Germany, assignor to Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wurzburg, Germany. Application January 29, 1932, Serial No. 589,742, and in Germany February 17, 1931. 8 Claims. (Cl. 18 — 17.)

1. In a matrix molding and drying press having a press head, a movable press table, a pump motor for applying fluid pressure to the press table, a pressure gauge limiting the action of the motor, means for heating the molded matrix, a suction pump for withdrawing vapor from the matrix, a motor for operating the suction means, and adjustable controlling means for varying the pressure on the matrix while the same is being dried, the combination of a control contact movable with the press table to close a circuit, a two-position time switch moved to one position by the closing of the circuit the time switch setting the matrix heating means in operation, an electromagnet energized by such movement of the time switch, the electromagnet operating the pressure controlling means to lower the pressure to the amount desired for the drying operation, a circuit for the suction pump motor also closed by such actuation of the time switch, a remote switch, a shunt circuit closed by the time switch in its second position the shunt circuit including means for moving the remote switch, a circuit closed by such movement of the remote switch for opening the outlet valve, a signal, and a circuit for the signal the circuit including contacts closed by such movement of the remote switch and also including contacts closed by the control contact on return movement of the table for indicating completion of an operation.

1,932,642. WEB ROLL CHANGER. Louis A. Schmidt, Brooklyn, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application March 28, 1929. Serial No. 350,531. 15 Claims. (Cl. 242 — 58.)

14. A roll stand for printing presses, comprising a shaft, a plurality of pairs of arms thereon, each pair adapted to support a web-roll, and means for rotating the pairs of arms independently.

Continued on page 18



Newspaper Engravers are demanding this Trouble-Free Zinc

QUALITY is bound to be appreciated. That's why exacting photo-engravers in all parts of the country have turned to Zomo Electric Zinc. In less than five years since the electric induction process was perfected, it has become the unqualified choice of the majority of leading newspaper photo-engravers everywhere.

This metal is made according to an exact formula (found to be ideal for photo engravers) developed in the finest zinc laboratory in the world. The electric induction method of manufacture of Zomo Electric Zinc assures automatic control of temperature and complete mixing of ingredients to form the perfect alloy. This method eliminates all possibility of variations in crystal structure or composition.

Zomo Electric Zinc stands up under high matrix pressure, etches quickly and cleanly and routes with gratifying ease. The quality of this metal is in keeping with modern newspaper methods.

The following carry stocks of Zomo Electric Zinc for prompt delivery: Rolled Plate Metal Company, Pacific Steel & Copper Plate Company, C. G. Hussey & Company, Eastman Kodak Stores, Inc., Allan B. Croke Company, Scientific Supply Company, W. E. Booth Company, Ltd.

ZOMO ELECTRIC ZINC

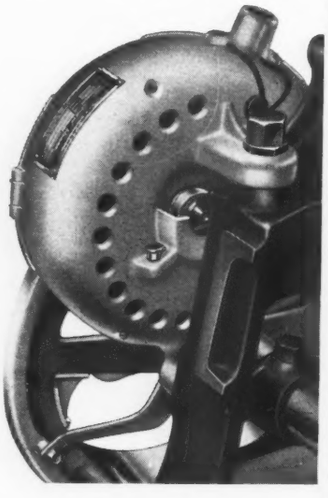
Yes Sir!

Every One of These Advantages Are in ONE Composing Machine Motor

1. A saving of 35 to 50% on current.
2. An installation time of 10 minutes.
3. Has D. C. brushes and back oil ring immediately accessible.
4. Requires practically no attention.
5. Pinion can be taken out by removing three cap screws.
6. Has 3-point suspension and is offset.
7. Large gear can easily be removed by loosening clamping screw and pulling off.

And Here Is The Motor

Cushman Offset Motors



It won't cost you a penny to prove all of these superiorities for yourself. Just let us send a motor, either D. C. or A. C., on trial. It will sell itself to you in a few weeks' trial. Write today—now!

CUSHMAN ELECTRIC CO.

69 South Main Street Concord, New Hampshire

1,932,675. ATTACHMENT FOR PAPER CUTTING MACHINES. William M. Reichart, Cleveland, Ohio, assignor to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio. Application December 21, 1931. Serial No. 582,306. 9 Claims. (Cl. 164 — 59.)

4. In combination with a paper cutting machine having a housing provided with an opening adapted to receive the knife of the machine in its descent during the cutting stroke, an attachment for the machine comprising a support adapted to be secured to the table of the machine and a slidable plate on the support having a portion adapted to cover part of the opening in the housing and a beveled edge adapted to be engaged by the knife and knife bar during the cutting stroke to uncover the opening in the housing.

1,932,680. METHOD AND APPARATUS FOR FEEDING SHEETS. Arthur Schade, Wiesbaden-Biebrich, Germany, assignor to Kalle & Co., Aktiengesellschaft, Wiesbaden-Liebrich, Germany, a corporation of Germany. Application January 28, 1932. Serial No. 589,340, and in Germany February 4, 1931. 18 Claims. (Cl. 271 — 48.)

1. An apparatus comprising a pair of rollers, a conveyor to convey sheets of material to the rollers, means to position at least the front edge of each sheet prior to disposition on the conveyor, means to hold the sheet in position after positioning and while it is being transferred to the conveyor, and means to release the sheet-holding means whereby the sheet may be completely transferred to the conveyor.

1,933,161. METHOD AND MEANS FOR PREVENTING SMUTTING. Leslie W. Claybourn and Carl C. Sweet, Milwaukee, Wis. Application March 14, 1932. Serial No. 598,780. 10 Claims. (Cl. 101 — 422.)

2. A method of reducing smutting from printed surfaces which comprises providing a support for the printed surfaces comprising a layer which is receptive to mercury under the influence of an amalgamating agent, providing the layer with mercury under the influence of such amalgamating agent, and cleaning such mercurialized surface between contacts with such printed surfaces.

10. In combination, in a device in which freshly printed sheets travel, an impression cylinder, an outer layer of mercury receptive material thereabout, a series of supply rollers for supplying a mixture of mercury and qualifying agent and including a fountain roller, an intermediate roller and transfer rollers between the fountain roller, the intermediate roller and the cylinder, the transfer rollers provided with outer layers of mercury receptive material and cushioning layers thereunder causing yielding between the last-named mercury receptive layers and the rollers and cylinder coacting therewith for causing transfer of mercury between the rollers and the cylinder, and means for causing movements in similar directions and at similar peripheral speeds between the contacting portions of the transfer rollers and the cylinder.

1,933,792. ENGRAVING. John Willey Dalton, Wimbledon, London, England, assignor to Daily Mirror Newspapers, Limited, London, England. Application July 19, 1932. Serial No. 623,425, and in Great Britain June 9, 1931. 5 Claims. (Cl. 178 — 5.)

1. Apparatus for producing on a suitable surface an engraved reproduction of an original subject comprising a cutter, a plurality of electromagnets associated with the cutter, and means magnetically associated with the electromagnets and mechanically associated with the cutter adapted, according to which of the individual electromagnets is energized, to advance the cutter into the surface to be engraved through one of a plurality of distances predetermined as to number and relative magnitude.

1,933,837. DOCTOR BLADE FOR ROLLS, CYLINDERS, AND THE LIKE. Oliver P. Arnold, Snyder, N. Y., assignor to W. E. Greene Corporation, New York, N. Y., a corporation of New York. Application March 22, 1932. Serial No. 600,495. 5 Claims. (Cl. 92 — 74.)

1. A doctor blade having abrasive properties for cooperation with the cylindrical surface of a roll, the blade being mounted to engage its edge with the roll surface at an acute angle opposed to the direction of rotation of the roll.

1,933,885. METHOD OF ACCURATELY SHAPING PRINTING PLATES AND APPARATUS THEREFOR. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application March 17, 1925, Serial No. 16,216. Renewed May 11, 1932. 12 Claims. (Cl. 29 — 21.)

1. The method of shaping printing plates which consists in applying pressure to the back of the plate at a series of points along it to force all low printing areas of the plate against a surface on the front side and plowing through the backs of the thick parts of the plate at the same points so that the entire front printing surface of the plate will conform accurately and uniformly to the desired shape, holding the plate firmly against such surface progressively across the plate and shaving the back of the plate while so held.

1,933,886. AUTOMATIC CONTROL FOR WEB REPLENISHING MECHANISM. Henry A Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application February 3, 1927, Serial No. 165,608. Renewed June 29, 1931. 6 Claims. (Cl. 242 — 58.)

2. In a web change device, the combination with a reel for supporting the web rolls, a motor for rotating the reel having a circuit provided with means for opening it and stopping the reel, means whereby the motor will be started automatically when the running roll is reduced nearly to its minimum diameter and means adapted to be engaged by a web roll moving with the reel for operating the circuit opening means.

1,933,887. LATE NEWS PRINTING MACHINE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application April 15, 1930, Serial No. 444,422. Renewed April 8, 1933. 7 Claims. (Cl. 101 — 351.)

2. In an inking device for a printing machine, the combination with a fountain provided with ends, anti-friction bearings in the ends, a fountain roll having its studs mounted in the bearings, one of the ends being adjustable, both of the ends being adapted to bear against the ends of the fountain roll and means for applying pressure to the adjustable end to keep the ink from escaping through the bearings.

1,933,963. PROCESS FOR COATING PAPER. Donald B. Bradner, Oxford, Ohio, assignor to The Champion Coated Paper Company, Hamilton, Ohio, a corporation of Ohio. Application December 18, 1931. Serial No. 581,955. 7 Claims. (Cl. 91 — 68.)

1. Process of making mineral coated paper which comprises applying aqueous mineral coating composition to a moving surface, removing a portion of the coating composition by means of a second surface moving in the opposite direction, transferring substantially all the remaining layer of coating to a web of paper moving in the opposite direction to the first moving surface and in contact therewith, continuously cleaning the second moving surface and predetermining the character of the coating on the paper by regulating the relative linear speeds of the surfaces.

1,934,140. MACHINE FOR TRIMMING THE PRINTING FACES OF TYPE BARS OR SLUGS. James C. Plastaras, Laurelton, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application September 26, 1931. Serial No. 565,230. 6 Claims. (Cl. 90 — 19.)

1. In a machine for trimming the printing faces of type slugs, the combination of a frame, two shaft bearings mounted in the frame in axially alined spaced relation and provided with conical bearing surfaces, a driving shaft formed at its ends with conical bearing surfaces mating with those of the bearings and rotatably supported thereby, a slug supporting table carried by and rotatable with the shaft, a plurality of slug holding devices carried by the table and adapted to present the slugs with their printing faces exposed, means for rotating the shaft continuously at low speed, a cutter rotatably mounted in the frame in position to act on the exposed printing faces of the slugs as they pass in succession through the zone of action of the cutter, and means for rotating the cutter continuously and at relatively high speed.

Hubbard's Composing Machine Maintenance Schedule

(Continued from page 10)

boxes and the rest of the oiling takes place. The motive in doing this is to allow time for any excess oil which may get on these bearings to work out at either end. The conveyor screws are then thoroughly cleaned and distributor boxes placed in positions.

Dampen cloth with tetrachloride and wipe off surfaces of all parts of machine with which matrix lugs come in contact.

Turn all grease cups down one-half revolution.

Inspect assembling mechanism as to condition of star wheel and fibre buffers.

Clean contact points on dynamic thermometer.

Semi-Monthly

Oil and grease all points on machine which call for lubrication.

Monthly

Inspect assembler slide brake shoes at point of contact between shoes and slide.

If sharp edge on shoe is worn flat, renew the shoe.

Fill all grease cups.

Clean walls of holes in mouthpiece.

A flat drill made from a piece of piano wire is used for the purpose. This material is tough and pliable and will not break.

Clean contact points on clapper switch in control box.

Inspect brushes and commutator on motors.

Quarterly

(March, June, September, December)

Clean distributor shifter and shifter channel, dry graphite the bearing surfaces of shifter, remove all loose graphite.

Flush delivery carriage channel.

Carbon Tetrachloride is used for flushing and cleaning these parts. This is a liquid which is non-inflammable and has good oil absorbing qualities.

(August, November, February, May)

Clean and oil keyboard cams. Clean cam rack.

Resurface rubber rolls, if hard.

We use keyboard rolls which when new measure 1 1/32 in. diam. A roll this size may be resurfaced three or four times before being discarded. The resurfacing is done on a lathe.

Wash out keybar weights and surface of banking bar at point where weights bank.

Semi-Annually

(January, July)

Clean matrices and magazines.

Magazines are first dry brushed and then washed with carbon tetrachloride. Matrices are cleaned with a wire buffing wheel.

(April, October)

Clean escapements on Models 25 and 26.

This operation consists of removing the verge plungers, inspecting the face of verge at point where plunger makes contact, washing and buffing of plungers and the channels in which they ride. A thin film of oil is applied with a felt pad on the face of plungers where operating levers make contact.

Yearly

(March)

Remove pot lever, clean and polish lever shaft, remove old grease from lever roller bearing and repack with hard grease. Oil lever shaft well when assembled.

Inspect cam lever rolls and pins.

Clean inside surfaces of molds with mold polish and flat hard pine stick. Inspect molds as to parallelism.

(June)

Inspect ejector blade carrier on universal blade for play at point where blade couples on to carrier, repair or replace any which interfere with alignment of ejecting face of blades.

Place base of old mold in disk pocket, bring ejector blades forward so the blades extend a few thousandths outside face of mold after taking up all back lash in blade carriers, lock firmly in this position, then square up ejecting surface of blades, using the old mold base as a guide.

Continued on page 21

We're going to tell you through pictures . . .

*I*T has been the policy of the Wood Flong Corporation to invite newspaper men to its mill in order that they might see dry mats in the making. Those who have taken advantage of this invitation have expressed astonishment at the many intricate steps in the process, and we believe they have learned to look upon dry mats from an entirely different angle. We also realize and acknowledge that the suggestions offered by visitors in the past have proved of great value to us.

These experiences have convinced us that the hundreds who cannot travel to our mill would find it of interest to have a picture story about Wood Dry Mats. Therefore, we have planned a series of advertisements for this publication, commencing with the January issue, which will show actual photographs of Wood Dry Mats in the process of manufacture.

It is our hope that through these picture stories, other newspaper men will be induced to visit our plant and will enjoy seeing the real action in our every-day production.

WOOD DRY MATS
ALWAYS UNIFORM

NRA

WOOD
FLONG CORPORATION
HOOSICK FALLS, N.Y.

I Sure Am Glad I Switched to Imperial

IF at the end of this month the front office sends back a memo to you saying, "Your 1933 type metal costs were lowest we have ever had. Congratulations." You would feel pretty good, wouldn't you? You would probably say, like thousands of other Imperial users, "I sure am glad I switched to Imperial."

Take a look at your 1933 type metal costs at the end of this month. Consider your machine and metal troubles, and the appearance of the work produced. Then ask yourself, "Should this 1933 yearly type metal cost have been lower?"

We suggest that you switch to Imperial starting in January. Keep a careful record of your costs for 1934, of your machine and metal troubles and of the appearance of your work through the year.

If you will do this you will find that this time next year your yearly metal costs will be lower, that you will have a minimum of difficulties, and, we believe, you will maintain an Imperialized plant from then on. Let us again urge that in 1934 you

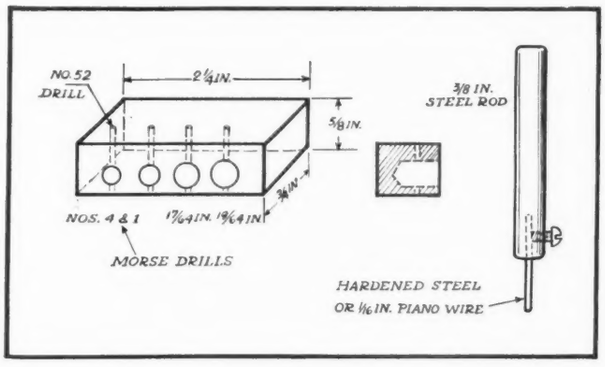
Switch to

Imperial
METAL

THE IMPERIAL TYPE METAL CO.
Philadelphia · New York · Chicago · Los Angeles

Useful Jig for Round Leather Belting

Line-casting machinists will be interested in reading about a jig for use when punching hook holes in round leather belts. Unless one is very careful when punching the hole the punch is apt to slip to an off-center position. Belts having off-center holes when connected to machinery do not last very long. If the hook holes are punched centrally, however, the joint will



add considerable to the life of the belt. There is also some variation in the diameters of round belting which makes punching the hole centrally by means of pliers rather difficult.

In the accompanying drawing are shown details for making a jig drilled to the proper depth to receive the belt in two sizes—3/16 in. and 1/4 in. The 1/16 in. driving holes above each belt receiving hole will guide the punch through the belt centrally so as to make a close-fitting joint when the ends are connected by the hook.

The belt receiving holes in the jig block can be varied according to the sizes of belting used.

Building Construction Resumed

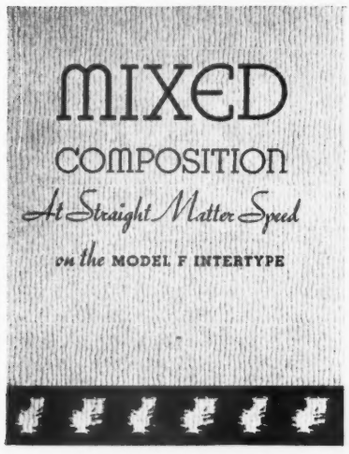
Construction work on the new building which will house the plant of the St. Louis *Star and Times* has been resumed. The site is located on Twelfth street between Delmar Boulevard and Franklin street. Tentative plans call for occupancy of the building early in the summer of the coming year.

Adds Delivery Equipment

The increasing demands for prompt service have made it necessary to add to the Sinclair & Valentine Company's delivery force a motorcycle. The company feels that in the acquisition of such a machine the printers and lithographers

in the metropolitan and outlying districts of New York will be given exactly the kind of special delivery of their inks that present-day business conditions call for on the part of the ink manufacturer.

Intertype Publishes New Mixer Book



Cover Page of New Intertype Booklet Which Has Just Been Published

"Mixed Composition at Straight Matter Speed" is the title of a new booklet just issued by the Intertype Corporation. The title is expressive in that the information included in the booklet fully describes the methods claimed by Intertype for mixing light and bold or Italic in the same line.

The booklet contains suggested layouts and exhibits of various kinds of mixed composition. The text is set in the new Intertype Cairo and printed direct from the slugs. Well illustrated and with a convenient arrangement of the text, this booklet is a distinct contribution to the cause of better printing. Copies of this new booklet will be mailed upon request to Intertype Corporation, 360 Furman Street, Brooklyn, New York.

Intertype Goudy Bold Small Caps

A new and easy method of duplicating the niceties of hand type for line-composing machine composition is shown in the two lines reproduced below:

10 POINT GOUDY BOLD WITH
ITALIC TRUE SMALL CAPS

These are called true small caps because they are normal width of the regular Goudy face. Another feature is that Italic small caps are cut in combination with the Roman instead of the customary figures in regular matrix fonts. It is understood these true bold small caps in combination with italic small caps are made in sizes from 6 to 14 point.

Hubbard's Machine Maintenance Schedule

(Continued from page 19)

(September)

Remove and inspect line delivery carriages.

Clean and overhaul spaceband box, also assembler drive and assembler carriage.

Remove vise jaws and wash off any dirt which may have accumulated on the riding surfaces, also wash out chambers in which they slide.

(December)

Inspect all adjustments on machines.

Overhaul primary distributors.

Remove delivery carriage air chamber plungers, clean and soften plunger washers with vaseline.

Overhaul and oil knife blocks.

HELPFUL

Printing Equipment Engineer,

Gentlemen: I look forward each month for the arrival of PRINTING EQUIPMENT ENGINEER and think it is the best printing trade magazine now published.

I find every issue contains subjects interesting and helpful to all newspaper mechanical department heads.

SID GILROY, *Superintendent,*
Cincinnati Enquirer Composing Room.

One Good Roller On Hand Is Worth Three On The Way

Good rollers mean just one thing—good ink distribution. Without a satisfactory distribution of ink the effort, expense and equipment necessary for good presswork are wasted. When so much depends on the final operation, why take chances with inferior or worn out rollers? Good rollers are not made in a day. They require a certain amount of time for their manufacture, and this should be allowed for in ordering.

We manufacture:

Star Rubber Rollers
Duplex Composition Rollers
Fibrous Composition Rollers
Crescent Offset Rollers
Leather Rollers
Plush Rollers
Photo Gelatine Rollers
Molleton Rollers
Moleskin Rollers

The Star line of adhesives includes rosin cement, splicing, makeready and mailing pastes, flexible glues, mounting, labeling, wrapping and case sealing glues. Samples will be sent on request without obligation.

Our rollers and adhesives carry the Bingham guarantee of quality, well-known to the Graphic Arts Industries since 1849.

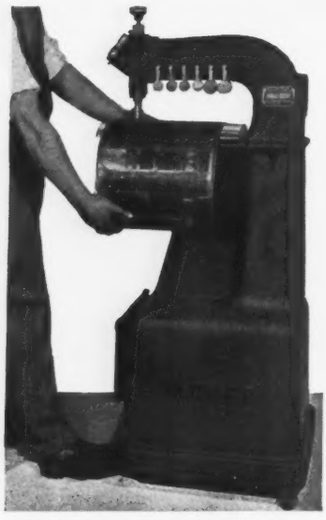
Bingham Brothers Company

(FOUNDED 1849)

PHILADELPHIA 521 Cherry Street
NEW YORK - - 406 Pearl Street
ROCHESTER 980 Hudson Avenue
BALTIMORE - 131 Colvin Street

Order from Nearest Plant
The Service is Uniform

MACHINE-CAST PRINTERS' ROLLERS
ESTABLISHED 1849



How Thick?

Newspaper plates are heavy and awkward to handle. Measurement is uncertain.

But measurement on the Hacker Plate Gauge is not uncertain. It is very definite and conclusively accurate.

Also, it measures the middle as well as the edges, and does it rapidly and easily.

Send for catalog of Hacker Plate Gauges. It may start you on the trail of some of your press troubles.

HACKER MANUFACTURING CO.
320 SOUTH HONORE STREET CHICAGO

YOUR DOLLAR CAN BUY MORE

When Spent for "STAR" Parts and Repairs for Your Linotype Machines!

Use that *extra difference* for getting these much-needed additional supplies.

Remember that "STAR" parts are unconditionally guaranteed to be perfect in workmanship and material. This warranty is made possible because of careful craftsmanship.

DISTRIBUTORS FOR
Ace Cord-Rubber Guaranteed Belts
for Typesetting Machines.

LINOTYPE PARTS CORPORATION

NEW YORK
203 Lafayette Street

KANSAS CITY
314 West 10th Street

Agencies:

CHICAGO
318 West Randolph Street

LOS ANGELES
1520 Georgia Street

Linotype Typographic Developments

Among the new typographic developments announced by the Mergenthaler Linotype Company are Erbar Bold Condensed in the 34, 28, 24 and 18-point sizes; a new size of Antique No. 1 with Italic and Small Caps (the 9-point size); two new sizes of Caslon No. 3 with Italic and Small Caps (the 7 and 9-point sizes); a new size of Excelsior with Italic and Small Caps (the 9-point size), and 18-point logotypes (centering on an 18-point body), for foodstore and similar advertising.

"We expect Erbar Bold Condensed to be particularly popular for newspaper heads," says C. H. Griffith, assistant to the president of the Mergenthaler organization, "as its distinctive design makes it more legible than most condensed sanserif faces.

18 Point Erbar Bold Condensed

HOW IS ONE TO ASSESS A
How Is One to Assess and

"Caslon No. 3 with Italic and Small Caps is now available in the 6, 7, 8, 9, 10, 12 and 14-point sizes. Large sizes up to 72-point Caslon No. 3, and from 18 to 48-point Caslon No. 3 Italic are available in the form of standard and All-Purpose Linotype matrices."

AND here are some lines in 9 Point Caslon No. 3 with *Italic* and SMALL CAPS. How is one to assess and evaluate a type face in terms of

"Linotype Excelsior, which is growing in popularity daily, and is now being used in nearly 150 newspaper and printing plants, is now available in all the regular and intermediate point sizes from 5½ to 10 point in combination with Italic and Small Caps or with Bold Face No. 2."

A BRIEF showing of 9 Point Excelsior with *Italic* and SMALL CAPS. How is one to assess and evaluate a type face in terms of

Big Ideas In the NRA

By R. O. VANDERCOOK*

I wonder how many plain business men who have listened to interminable discussions of the NRA have come to about this conclusion.

All the Government (which is ourselves) wants of manufacturers is, first, that the working conditions of our factories shall be sanitary and wholesome in every respect; second, that the wages paid shall be sufficient to provide a wholesome living for all employes, and third, that the management, under these conditions, shall produce fair earnings. We hope we are intelligently selfish. It is very evident to us that the world can exist without books but not without cooks.

We supply printers and publishers with labor-displacement machines. The more time that the masses have for reading and thinking by not having their whole energy taken in a struggle for bare existence, the more use to the world will be our printer and publisher friends.

We do not want to lose our job and we can see that if those who do the real work of the world do not get better returns for their efforts (and the greed checked of those who suck the life blood out of industry) there will be less use for the products of our customers, less use for us and therefore a smaller job for us.

*R. O. Vandercook & Sons, Chicago, Ill.

Vandercook Opens New York Branch

Vandercook & Sons, Inc., Chicago, have opened a new salesroom and service station at 216 East 35th St., New York, N. Y. The new branch is in charge of B. J. Gildes.

PRINTING EQUIPMENT ENGINEER
1370 Ontario Street, Cleveland, Ohio.

Gentlemen:

Enclosed find.....dollars ($2.00 each) for.....subscriptions for 1934.
Send Christmas letter and the magazine to each of the following—

Name..... Name.....

Address..... Address.....

City.....State..... City.....State.....

Name..... Name.....

Address..... Address.....

City.....State..... City.....State.....

$2.00
Each Subscription

GIVER—Name.....

Address.....

City.....State.....

A Worth-While Christmas Gift

A SUGGESTION TO MECHANICAL EXECUTIVES AND THE FRONT OFFICE

Here is a suggestion for a worth-while Christmas Gift for mechanical executives or the front office to present to junior executives and other men in your mechanical departments. Give them a year's subscription to PRINTING EQUIPMENT ENGINEER.

While only mechanical executives are entitled to receive PRINTING EQUIPMENT ENGINEER gratis, there is no reason why other men in your plant should not be reading this instructive and valuable magazine, thus helping themselves to further improve their work.

A subscription to PRINTING EQUIPMENT ENGINEER costs only $2.00 a year.

Please note on the reverse side the names and addresses of each man you wish to receive this gift and enclose $2.00 for each subscription.

Upon receipt of subscriptions we will write a Christmas letter to each man telling him of your thoughtfulness in sending him PRINTING EQUIPMENT ENGINEER for a year as a Christmas gift.

PRINTING EQUIPMENT ENGINEER
1370 ONTARIO STREET CLEVELAND, OHIO

Ludlow Executive Dies

George O. Cromwell, a vice-president of the Ludlow Typograph Company, Chicago, passed away at his residence in Chicago, November 24, as a result of a paralytic stroke, following a brief illness. He was born at Massillon, Ohio, November 22, 1855.

The Late George O. Cromwell, Vice President of the Ludlow Typograph Company.

He had been associated with the company since its beginning, and was a veteran member of the organization. In the early years of the Ludlow Company he participated in its general development, and in recent years has confined his attentions principally to the field of type design.

Mr. Cromwell had taken an active interest in graphic arts in general and in fine typography in particular. He was one of the moving spirits in the organization of the Society of Typographic Arts, of which he had been a director for several years and at one time vice-president.

He was the father of John Cromwell, well-known moving picture director, and of Charles Cromwell of Detroit, and Helen Cromwell of Beverly Hills, California.

Business Is Better

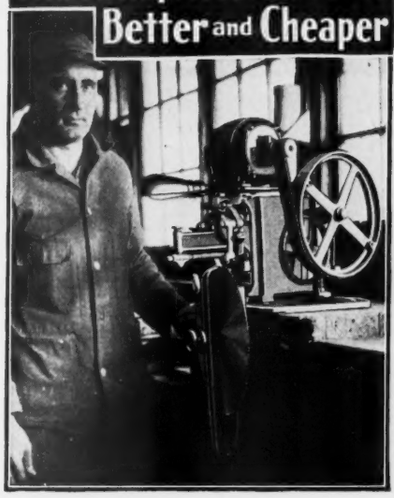
Under this title the Miller Printing Machinery Co., Pittsburgh, Pa., has issued a leaflet describing some of the sales of printing press equipment together with the firm names during a recent six-week period. This is the first of a series of pieces being mailed to 24,000 printers, publishers and boxmakers as a forceful reminder that progressive firms, after careful investigation, have purchased equipment as being essential to meet competition with a profit even with a reduced volume of business.

Three New Condensed Sans Serif Designs

The Lanston Monotype Machine Co., 24th and Locust, Philadelphia, Pa., has just announced three new Condensed Sans Serif designs, in sizes from 14 point to 72 point. These were designed by Sol Hess, and are called Light Condensed No. 357, Medium Condensed No. 354 and Extra Bold Condensed No. 333. This completes eleven variations of the Sans Serif Family which the Monotype Company states is still in greater demand among Monotype users than any other family of type faces. Copies of the folder may be obtained by writing to the Monotype Company direct.

General Repairs of Linotype or Intertype Parts
Special Tools and Appliances for Composing Room
Reid Linotype and Intertype Magazine Racks
WILLIAM REID & CO.
537 SO. LA SALLE STREET CHICAGO, ILLINOIS

The Foley Files All Saws Better and Cheaper



Your saws will cut faster, truer and actually stay sharp much longer and give longer life when every tooth is filed absolutely alike, with the

FOLEY AUTOMATIC SAW FILER

This accurate machine files and joints every tooth to a greater uniformity than even the most expert hand filing. It saves much saw-filing time and expense. No errors; no eye strain.

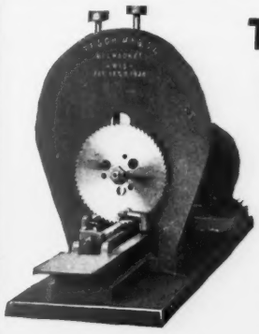
One machine files all kinds of saws—band saws, hand saws and cross-cut circular saws. Also files your metal-cutting circular saws — so perfectly that they do not get out of round.

FREE TRIAL. Use the Foley a month on all your own saws. That will prove beyond question the many advantages of filing your saws with this fully automatic, precision machine. Write us today!

A FEW USERS:
Boston American
Boston Herald
Chicago Daily News
Christian Science Pub. Co.
Curtis Publishing Co.
Detroit Times
Hearst Papers
Minneapolis Journal
Philadelphia Public Ledger
Portland Oregonian
Providence Journal
St. Louis Star
Washington (D.C.) Star
And many other newspapers and commercial printing plants.

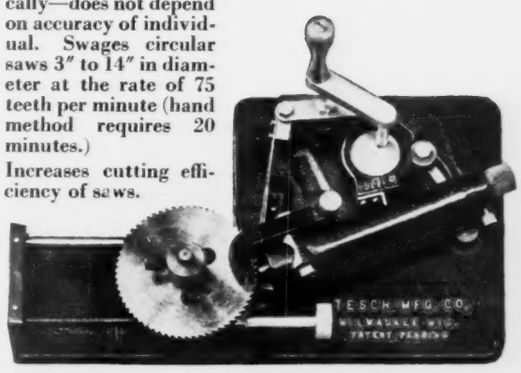
FOLEY MFG. CO.
57 Main St. N. E., Minneapolis, Minn.

Tesch Automatic Filer—Swager



Fully automatic for saws 3″ to 10″ diameter having any number of teeth. Does not depend on tooth for resharpening—mechanically controlled. 100 per cent cutting efficiency.
Motor driven or hand power.

Swages teeth mechanically—does not depend on accuracy of individual. Swages circular saws 3″ to 14″ in diameter at the rate of 75 teeth per minute (hand method requires 20 minutes.)
Increases cutting efficiency of saws.



"Tesch Equipment Pays for Itself"

TESCH MANUFACTURING CO.
2850 South 20th Street ▲ Milwaukee, Wisconsin

COLUMBIAN INKS

COLUMBIAN INKS

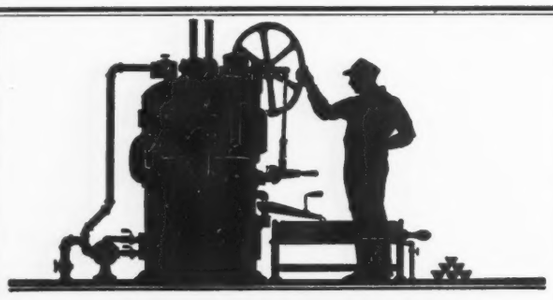
the best for

NEWSPAPERS
MAGAZINES

Including Our New Line
of

BRILLIANT
COMIC COLORS

The L. Martin Company
Established 1849
45 EAST 42ND STREET, NEW YORK CITY
PRINTING INK DIVISION OF
THE COLUMBIAN CARBON CO.



THE MONARCH
MONOMETER
A
PRINTERS' MELTING FURNACE

WITH
THERMOSTATIC CONTROL
OF TEMPERATURE.
ELECTRICITY, GAS, OR OIL
AS FUEL.
AUTOMATIC MIXING AND
STIRRING OF METAL.
DROSSLESS & FUMELESS.
MADE IN CAPACITIES
FROM 500 - 10,000 LBS.

WRITE FOR COMPLETE CATALOG P.E.E.

The Monarch Engineering & Mfg. Co.
701-702 American Bldg., Baltimore, Md., U. S. A.
Works, Curtis Bay, Md.

Catalogs, Books and Bulletins

Readers of PRINTING EQUIPMENT ENGINEER who are interested in securing any of the catalogs, books or bulletins listed below can do so by checking the literature desired. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded without cost except where noted.

Oildag Colloidal-Graphited Oil—Folder telling about Greday which is added to lubricating oils and held in suspension therein for use on printing machinery.

Hacker Presses and Proofing Material—Well illustrated catalog containing descriptions of cylinder proofing equipment and precision devices which are used by photo-engravers in obtaining precision impression, distribution and register in the testing of color plates as well as black and white plates. Contains much technical data.

The World's Leading Printers' Saw—Amply illustrated folder describing a saw-trimmer for general use in the composing room.

Uniform Cost Activities in Trade and Industry—A review of uniform cost experiences of more than 76 trade associations, including U. T. A. and half a dozen other associations connected with the printing and publishing industry. Only a limited number of copies available.

Ideal Process Rollers—Eight-page booklet describing the Ideal roller for printing presses.

The King of Shrdlu Mountain—Sixteen-page illustrated booklet describing in story form the benefits of immersion metal heating for stereotype pots.

Printing Equipment Engineer,
1370 Ontario St., Cleveland, Ohio.

Gentlemen: Please send the literature checked above without obligation.

Name of Company_____

Attention of_____

Position_____ Dept._____

Street Address_____

City_____ State_____

Advertisers' Index

	PAGE
A	
American Publishers Supply Company	inside front cover
B	
Bingham Brothers Company	21
Burgess Cellulose Company	17
C	
Certified Dry Mat Corporation	14
Cushman Electric Company	18
F	
Foley Manufacturing Company	23
H	
Hacker Manufacturing Company	22
I	
Imperial Type Metal Company	20
Intertype Corporation	outside back cover
L	
Lanston Monotype Machine Company	15
Linotype Parts Corporation	22
Ludlow Typograph Company	16
M	
Martin Company, The L.	24
Matrix Contrast Corporation	6
Mergenthaler Linotype Company	13
Monarch Engineering & Manufacturing Company	24
N	
Niles & Nelson, Inc.	4
P	
Printing Equipment Engineer	inside back cover
R	
Reid, William & Company	23
S	
Stahl Newspaper Supply Company	3
T	
Tesch Manufacturing Company	23
W	
Wood Flong Corporation	19

ANNUAL INDEX *for the* YEAR 1933

A

Page and Month

Accuracy of Electrotyping Reproduction, J. Homer Winkler ..... 17, June
Activities of A.N.P.A. Mechanical Department ..... 12, May
Adjustable Sight Gauge for Monotype Material Maker ..... 24, Oct.
Adsit, Harry B.:
  Rubber Printing Rollers, Their Use and Care, I ..... 10, Aug.
  Rubber Printing Rollers — Their Use and Care, II ..... 15, Sept.
Advantages of Lithographic Halftone Dot Etching, J. S. Mertle ..... 7, July
All-Purpose Linotype Has Wide Type Face Range ..... 14, May
Anderson, D. L.: Venturi Type Burner for Intertype Gas Pots ..... 22, June
A.N.P.A.:
  Activities of Mechanical Department ..... 12, May
  Coordination, Color Work, Roll Changers ..... 16, June
  Mechanical Department Functioning Well ..... 11, July
  Production Economy, Keynote of Mechanical Meeting ..... 7, April
April Printing Patents ..... 21, May
A.S.M.E., Fourth Conference of the Technical Experts ..... 15, June
Auxiliary Color Fountain Used by Cleveland News, Wm. V. Cowgill ..... 30, Nov.

B

Bassler, J. R.: Splendid New Home for Times-Star ..... 8, Jan.
Bassist, Ellis and J. S. Mertle: Great Interest in Deep-Etch Offset Plates Justified ..... 9, July
Big Ideas in the NRA ..... 22, Dec.
Bohnalite Pot Crucible Pump Plungers ..... 45, Nov.
Books Received:
  Displacement of Men by Machines ..... 45, June
  Make Ready, W. W. Hitchner ..... 8, Feb.
  Manufacture of Printing and Lithographic Inks ..... 14, Oct.
  Who's Who in Printing in the U.S. and Canada ..... 14, Oct.
Brown, Raymond S.: Matrix Crimping Machine ..... 24, April
Buy New — Buy Now, Editorial ..... 15, Nov.

C

Carle, Leo J.: Iowa Composing Room Executives Function Well ..... 36, Nov.
Casting Experience of Monotype Vitalloy 160, Wilson S. Yerger ..... 30, June
Catalogs Books and Bulletins, 26, Jan.; 26, Feb.; 22, Mar.; 26, April; 26, May; 50, June; 30, July; 26, Aug.; 26, Sept.; 29, Oct.; 48, Nov.; 24, Dec.
Chicago to Be Mecca of Printing House Craftsmen, Ira D. Pilliard ..... 8, Aug.
Claybourn, L. W.: Standards in Letterpress Printing ..... 7, Oct.
Cleveland Paper Wins Prize ..... 44, June
Color Printing on Newspaper Presses, Walter Ogden ..... 7, Aug.
Composing Machines and Trucks, Letters to the Editor ..... 13, Oct.
Composing Machine Engineer Dies (W. S. Scudder) ..... 18, Jan.

D

December Printing Patents ..... 14, Jan.
Dennerlein, Peter J.: McKee Process of Multi-Color Printing ..... 20, Nov.
Determining Value of Used Machinery ..... 9, Oct.
Devanagari Composed on Linotype ..... 25, Aug.
"Displacement of Men By Machines," Elizabeth Faulkner Baker ..... 45, June
Domestic Mat Makers Organize ..... 23, Oct.
Dorman, Geo. R.: Indices Advocated to Show Way of Grain ..... 20, Mar.
Dry Mats — Pre-Trimming and Packing Stereo Mats, Staff Writer ..... 16, Feb.
Dunn, J. C.: Essential Qualities of Press Blankets ..... 14, Aug.

E

Economies in Rubber Roller Upkeep, John H. Sheehan, I ..... 32, June
Economies in Rubber Roller Upkeep, John H. Sheehan, II ..... 13, July
Editorial:
  Buy New — Buy Now ..... 15, Nov.
  Determining Value of Used Machinery ..... 9, Oct.
  Invention Leads Man to Higher Plane ..... 8, Feb.
  Is This the Time to Buy? ..... 16, Nov.
  Mechanical Executive and Used Machinery Problem ..... 7, Feb.
  Printing Equipment Code ..... 7, Sept.
  Restraint of Trade Acts Should Be Modernized ..... 8, Mar.
Efficient Method for Using Type Washes ..... 44, June
Electric Eye:
  Man's New Servant, I, M. E. Hanson ..... 9, Feb.
  Man's New Servant, II, M. E. Hanson ..... 9, Mar.
  Man's New Servant, III, M. E. Hanson ..... 9, April
Electrotyping: Accuracy of Reproduction, J. Homer Winkler ..... 17, June
Eliminating Chilled Spots on Giant Caster Type, Geo. L. Morrison ..... 48, June
Elliett, Walter S.: Transfer Impression Shows Stereo Plates Fit Cylinder ..... 9, Aug.
Emergency Inset Matrices ..... 26, Feb.
Engraving — Synthetic Resin for Acid Resist ..... 8, Mar.
Essential Qualities of Press Blankets, J. C. Dunn ..... 14, Aug.

F

February Printing Patents ..... 14, Mar.
Feather, William:
  Narrow Margins ..... 25, Oct.
  Unnecessary Work ..... 15, Feb.
First Gutenberg Press Has Been Brought to America ..... 19, June
$5,000,000 Third Quarter Printing Equipment Sales ..... 18, Nov.
Form New Association to Foster Advance of Industry ..... 13, Aug.
Francis Wayland Ayer Cup Award for 1933 ..... 15, May
Freund, H. R.: New Intertype Spacebands ..... 29, July

G

Garrity, B. F.: Named Mechanical Chief ..... 18, Jan.
Graphic Arts Press Control, E. H. Laabs ..... 10, Mar.
Great Activity in Printing Equipment Patents ..... 24, Nov.
Great Interest in Deep-Etch Plates Justified, Ellis Bassist and J. S. Mertle ..... 9, July

H

Hanson, M. E.:
  Electric Eye, Man's New Servant, I ..... 9, Feb.
  Electric Eye — Man's New Servant, II ..... 9, Mar.
  Electric Eye — Man's New Servant, III ..... 9, April
  "Make-Ready" ..... 8, Feb.
  Mechanical Executive and Pressroom Obsolescence ..... 7, Jan.
The Composition Roller As I Know It ..... 7, May
Hitchner, W. W.: Hints for Improvement of Pressroom Technique ..... 9, Dec.
How to Etch Figures in Mold Caps ..... 21, Oct.
Hubbard's Composing Machine Maintenance Schedule, Mac Sinclair ..... 10, Dec.

I

Importance of Rollers for Offset Lithography, E. L. Travers ..... 10, July
Imposing Structure Houses Modern Plant, Edward H. Preston ..... 9, May
Indices Advocated to Show Way of Grain, Geo. R. Dorman ..... 20, Mar
Ink:
  Ink Oxidation Cause of Heat ..... 50, Nov.
  Manufacture of Printing and Lithographic Inks ..... 14, Oct.
  Novel Mechanism for Automatic Ink Agitator, Mac Sinclair ..... 18, June
Invention Leads Man to Higher Plane, Editorial ..... 8, Feb.
Iowa Composing Room Executives Function Well, Leo J. Carle ..... 36, Nov.
Iowa Executives Meet ..... 26, July
Is This the Time to Buy? Editorial ..... 16, Nov.
I.T.C.A. Mid-Year Meeting ..... 46, June

J

January Printing Patents ..... 21, Feb.
June Printing Patents ..... 18, July

K

"Kiss" vs "Impression," Letters to the Editor ..... 13, Oct.

L

Laabs, E. H.: Graphic Arts Press Control ..... 10, Mar.
Latest Printing Equipment Mechanisms, 24, Jan.; 18, Feb.; 12, Mar.; 12, April; 23, May; 34, June; 12, July; 23, Aug.; 21, Sept.; 10, Oct.; 17, Oct.; 34, Nov.; 12 Dec.
Letters to the Editor:
  Composing Machines and Trucks ..... 13, Oct.
  Further Information on Cut-Mounting System ..... 23, Feb.
  "Kiss" vs. "Impression" ..... 13, Oct.
  More About Mortising Matrices ..... 13, Oct.
  Work Schedule Suggestions, Alexander Gordon ..... 16, Jan.
Letterpress versus Offset, Frank O. Sullivan ..... 8, July
Linotypes, Power Magazine Shift For, R. R. Mead ..... 14, Feb.

M

Make-Ready, W. W. Hitchner ..... 8, Feb.
Manipulating Recessed Type Bodies ..... 49, Nov.
Manufacture of Printing and Lithographic Inks, Books Received ..... 14, Oct.
March Printing Patents ..... 12, April
Matrix Crimping Machine, Raymond S. Brown, 24, April
Mats and Electros Preferred to Hard Stereos by Newspapers ..... 7, Mar.
Matrices, Emergency Inset ..... 26, Feb.
May Printing Patents ..... 28, June
McKee Process of Multi-Color Printing, Peter J. Dennerlein ..... 20, Nov.
Mead, R. R.: Power Magazine Shift for Linotypes ..... 14, Feb.
Mechanical Executive and Pressroom Obsolescence ..... 7, Jan.
Mechanical Executive and Used Machinery Problem ..... 7, Feb.
Meetings:
  Activities of Mechanical Department ..... 12, May
  A.N.P.A. Mechanical Department Functioning Well ..... 11, July
  Coordination, Color Work, Roll Changers ..... 16, June
  Chicago to Be Mecca of Printing House Craftsmen, Ira D. Pilliard ..... 8, Aug.
  Fourth Conference of the Technical Experts ..... 15, June
  Iowa Executives Meet ..... 26, July
  I.T.C.A. Mid-Year Meeting ..... 46, June
  Mid-Year Meeting of International Trade Composition Association ..... 8, July
  Production Economy, Keynote of Mechanical Meeting ..... 7, April
Melting Stereotype Metal by Immersion Gas Heaters, S. E. Phillips ..... 13, Sept.
Mertle, J. S.: Advantages of Lithographic Halftone Dot Etching ..... 7, July
Mertle, J. S., and Ellis Bassist: Great Interest in Deep-Etch Offset Plates Justified ..... 9, July
Metal: Casting Experience of Monotype Vitalloy 160, Wilson S. Yerger ..... 30, June
Mid-Year Meeting of International Trade Composition Association ..... 8, July
Monotype:
  Adjustable Sight Gauge for Monotype Material Maker ..... 24, Oct.
  Annual Report ..... 49, June
  Casting Experience of Vitalloy 160, Wilson S. Yerger ..... 30, June
  Eliminating Chilled Spots on Giant Caster Type, George L. Morrison ..... 48, June
  Manipulating Recessed Type Bodies ..... 49, Nov.
More About Mortising Matrices, Letters to the Editor ..... 13, Oct.

N

Named Mechanical Chief, B. F. Garrity ..... 18, Jan.
Narrow Margins, William Feather ..... 25, Oct.
National Printing Equipment Association, Inc.:
  Determining the Value of Used Machinery ..... 9, Oct.
  Form New Association to Foster Advance of Industry ..... 13, Aug.
  Proposal to Combat Used Machinery Problem ..... 11, Sept.
  Tentative Code for Equipment Manufacturers ..... 8, Sept.
  Membership List ..... 8, Sept.
  Membership List ..... 10, Oct.
  Membership List ..... 17, Nov.
New Composing Room Foreman for Rochester Gannett Paper ..... 21, June
New General Manager for Harris-Seybold-Potter ..... 42, Nov.
New Head of Hall Printing Co., Technical Division ..... 13, Aug.
New Web Dampening Device Gives Increased Brilliancy ..... 16, Sept.
Novel Mechanism for Automatic Ink Agitator, Mac Sinclair ..... 18, June

O

Obsolescence:
  Mechanical Executive and Pressroom Obsolescence ..... 7, Jan.
  Mechanical Executive and Used Machinery Problem ..... 7, Feb
Ogden, Walter: Color Printing on Newspaper Presses ..... 7, Aug.
Order Supplies Regularly ..... 25, Oct.

P

Paper Dust Eliminator ..... 32, Nov.
Paper — Indices Advocated to Show Way of Grain, Geo. R. Dorman ..... 20, Mar.
Patents: December Printing, 14, Jan.; 21, Feb.; 14, Mar.; 12, April; 21, May; 28, June; 18, July; 18, Aug.; 25, Sept.; 11, Oct.; 24, Nov.; 18, Dec.
Phillips, S. E.: Melting Stereotype Metal by Immersion Gas Heaters ..... 13, Sept.
Photo-Lith and Offset-Lith:
  Advantages of Lithographic Halftone Dot Etching, J. S. Mertle ..... 7, July
  Great Interest in Deep-Etch Plates Justified, Ellis Bassist and J. S. Mertle ..... 9, July
  Importance of Rollers for Offset Lithography, E. L. Travers ..... 10, July
  Letterpress versus Offset, Frank Sullivan ..... 8, July
  Photo-Electric Stop for Presses in Case of Paper Break, Horace H. Raymond ..... 24, June
  Photographic Films on Black-and-White Work in Offset Process ..... 15, July

P

Page and Month

Frank O. Sullivan, 12, Jan.; 12, Feb.; 11, Mar.; 11, April.
Photo-Electric Stop for Presses in Case of Paper Break, Horace H. Raymond ..... 24, June
Pilliard, Ira D.: Chicago to Be Mecca of Printing House Craftsmen ..... 8, Aug.
Power Magazine Shift for Linotypes, R. R. Mead ..... 14, Feb.
Presses:
Auxiliary Color Fountain Used by Cleveland News, Wm. V. Cowgill ..... 30, Nov.
Color Printing on Newspaper Presses, Walter Ogden ..... 7, Aug.
Composition Roller as I Know It, W. W. Hitchner ..... 7, May
Economies in Rubber Ruller Upkeep, I, John H. Sheehan ..... 32, June
Economies in Rubber Roller Upkeep, II, John H. Sheehan ..... 13, July
Essential Qualities of Press Blankets, J. C. Dunn ..... 14, Aug.
First Gutenberg Press Has Been Brought to America ..... 19, June
Goss Announces New Designs ..... 26, July
Graphic Arts Press Control, E. H. Laabs ..... 10, Mar.
Hints for Improvement of Pressroom Technique ..... 9, Dec.
Importance of Rollers for Offset Lithography, E. L. Travers ..... 10, July
McKee Process of Multi-Color Printing, Peter J. Dennerlein ..... 20, Nov.
Mechanical Executive and Pressroom Obsolescence ..... 7, Jan.
New Web Dampening Device Gives Increased Brilliancy ..... 16, Sept.
Paper Dust Eliminator ..... 32, Nov.
Philadelphia Inquirer Has Press With 2,429 Ball Bearings, Francis A. Westbrook ..... 8, April
Photo-Electric Stop for Presses in Case of Paper Break, Horace H. Raymond ..... 24, June
Printing From Galleys, Francis A. Westbrook ..... 40, Nov.
Rubber Printing Rollers — Their Use and Care, I, Harry B. Adsit ..... 10, Aug.
Rubber Printing Rollers — Their Use and Care, II, Harry B. Adsit ..... 15, Sept.
Something for Pressmen to Think About ..... 22, Oct.
Standards in Letterpress Printing, L. W. Claybourn ..... 7, Oct.
Preston, Edward H.: Imposing Structure Houses Modern Plant ..... 9, May
Pre-Trimming and Packing Stereo Mats, Staff Writer ..... 16, Feb.
Proposal to Combat Used Machinery Problem ..... 11, Sept.
Proposed Code Adopted for Dry Mat Industry ..... 28, Nov.
Printing Equipment Code, Editorial ..... 7, Sept.
Printing From Galleys, Francis A. Westbrook ..... 40, Nov.

R

Raymond, Horace H.: Photo-Electric Stop for Presses in Case of Paper Break ..... 24, June
Recent Printing Patents ..... 18, Aug.; 25, Sept.
Recently Issued Printing Patents ..... 11, Oct.
Returns From European Trip ..... 42, Nov.
Research Work on Decay of Bookbinding Leather ..... 5, Nov.
Restraint of Trade Acts Should Be Modernized, Editorial ..... 8, Mar.
Rinne Now Mechanical Advisor to Booth Newspapers ..... 27, July
Rubber Printing Rollers:
Their Use and Care, I, Harry B. Adsit ..... 10, Aug.
Their Use and Care, II, Harry B. Adsit ..... 15, Sept.

S

Scudder, W. S.: Composing Machine Engineer Dies ..... 18, Jan.
Sheehan, John H.:
Economies in Rubber Roller Upkeep, I ..... 32, June
Economies in Rubber Roller Upkeep, II ..... 13, July
Sherman, Frank M.:
Spacing Material Used For Mounting Plates ..... 11, Jan.
Further Information on Cut-Mounting System ..... 23, Feb.
Sinclair, Mac.:
Hubbard's Composing Machine Maintenance Schedule ..... 10, Dec.
Novel Mechanism for Automatic Ink Agitator ..... 18, June
Standard Newspaper Composing Room Cost System ..... 16, July
Talking Shop About Metal Pot Crucible Mouthpieces ..... 11, Aug.
Slug-Casting:
All-Purpose Linotype Has Wide Type Face Range ..... 14, May
Bohnalite Pot Crucible Pump Plungers ..... 45, Nov.
Devanagari Composed on Linotype ..... 25, Aug.
How to Etch Figures in Mold Caps ..... 21, Oct.
Hubbard's Composing Machine Maintenance Schedule, Mac Sinclair ..... 10, Dec.
More About Mortising Matrices ..... 13, Oct.
New Intertype Spacebands, H. R. Freund ..... 29, July
Talking Shop About Metal Pot Crucible Mouthpieces, Mac Sinclair ..... 11, Aug.
Three-Prong Star Wheel ..... 26, Oct.
Washing Machine for Line-Composing Matrices, B. L. Wehmhoff ..... 20, June
Venturi Type Burner for Intertype Gas Pots, D. L. Anderson ..... 22, June
Some Technical Aspects of Printing, B. L. Wehmhoff ..... 7, Dec.
Something for Pressmen to Think About ..... 22, Oct.
Spacing Material Used for Mounting Plates, Frank M. Sherman ..... 11, Jan.
Splendid New Home for Times-Star, J. R. Bassler ..... 8, Jan.
Standards in Letterpress Printing, L. W. Claybourn ..... 7, Oct.
Standard Newspaper Composing Room Cost System, Mac Sinclair ..... 16, July
Stereotyping:
Domestic Mat Makers Organize ..... 23, Oct.
Mats and Electros Preferred to Hard Stereos by Newspapers ..... 7, Mar.
Matrix Crimping Machine, Raymond S. Brown ..... 24, April
Melting Stereotype Metal by Immersion Gas Heaters, S. E. Phillips ..... 13, Sept.
Pre-Trimming and Packing Stereo Mats, Staff Writer ..... 16, Feb.
Proposed Code Adopted for Dry Mat Industry ..... 28, Nov.
Transfer Impression Shows Stereo Plates Fit Cylinder, Walter S. Elliett ..... 9, Aug.
Water Agitator for Stereo Pot ..... 19, Aug.
Sullivan, Frank O.:
Letterpress versus Offset ..... 8, July
Photo-Lith and Offset-Lith ..... 12, Jan.
Photo-Lith and Offset-Lith ..... 11, Mar.
Photographic Films on Black-and-White Work in Offset Process ..... 15, July
Photo-Lith and Offset-Lith ..... 12, Feb.
Photo-Lith and Offset-Lith ..... 11, April
Synthetic Resin for Acid Resist ..... 8, Mar.

T

Talking Shop About Metal Pot Crucible Mouthpieces, Mac Sinclair ..... 11, Aug.
Tentative Code for Equipment Manufacturers ..... 8, Sept.
Times-Star, Splendid New Home for, J. R. Bassler ..... 8, Jan.
Three-Prong Star Wheel ..... 26, Oct.
Transfer Impression Shows Stereo Plates Fit Cylinder, Walter S. Elliett ..... 9, Aug.
Travers, E. L.: Importance of Rollers for Offset Lithography ..... 10, July

U

Unnecessary Work, William Feather ..... 15, Feb.

V

Vandercook, R. O.: Big Ideas in NRA ..... 22, Dec.
Venturi Type Burner for Intertype Gas Pots, D. L. Anderson ..... 22, June

W

Washing Machine for Line-Composing Matrices, B. L. Wehmhoff ..... 20, June
Water Agitator for Stereo Pots ..... 19, Aug.
Wehmhoff, B. L.:
New Head of Hall Printing Co., Technical Division ..... 13, Aug.
Some Technical Aspects of Printing ..... 7, Dec.
Washing Machine for Line-Composing Matrices ..... 20, June
Westbrook, Francis A.:
Philadelphia Inquirer Has Press With 2,429 Ball Bearings ..... 8, April
Printing From Galleys ..... 40, Nov.
Winkler, J. Homer: Accuracy of Electrotyping Reproduction ..... 17, June
Who's Who in Printing in the U.S. and Canada, Books Received ..... 14, Oct.
Work Schedule Suggestions, Alexander Gordon ..... 16, Jan.

How to Reach the Real Buyers of the Printing Industry

A Timely Message to Printing Equipment and Supply Manufacturers

BEFORE placing any advertising contracts for 1934 make a careful study of the buyers of your product and the publications in the industry. Forget past impressions and get present-day facts.

Who Are Your Real Buyers?

Who determines the need for your product? Who specifies whether your product or your competitors' shall be purchased? And who can make or break the sale for you? Who do your salesmen call upon? Is this important individual the Publisher—Editor—Purchasing Agent—or front office executive in the commercial plant?

Unless *you know* the purchase-origin of your sales you are not intelligently prepared to select your advertising media. We do know—and we have indisputable evidence both from our advertisers and readers—that almost invariably the need, preference and purchase of equipment and supplies originates with some *production or mechanical executive.*

The real buyers of equipment and supplies are, therefore, the production and mechanical executives of the industry.

How To Reach These Real Buyers

Analyze the circulation of the magazines in the field in the light of the men you want to reach. If your purchase-origin is with the mechanical executive then why waste money advertising to the Editor, Purchasing Agent, Publisher, Advertising Agencies, printing salesmen and front office executives? These men rarely originate the purchase of equipment and supplies—then why advertise to them? Determine where you can place an advertisement that will be read by the greatest number of mechanical executives at the least possible cost.

Printing Equipment Engineer Reaches The Real Buyers

PRINTING EQUIPMENT ENGINEER was originated to reach the real buyers of the industry without waste and at the lowest possible cost. It has a hand-picked list of 6750 equipment and supply buyers. Everyone of them a production or mechanical executive. If you want to reach only Editors, Publishers, Advertising Agencies, Printing Salesmen, Bookkeepers and other front office executives, don't use PRINTING EQUIPMENT ENGINEER. We have no such readers. If you want to sell daily newspapers and the largest magazine and commercial plants, *use* PRINTING EQUIPMENT ENGINEER for we have their real buyers. On the other hand if it's the small commercial plants and weekly newspapers you want, don't use PRINTING EQUIPMENT ENGINEER, we don't reach them.

PRINTING EQUIPMENT ENGINEER *stands alone* as the only magazine reaching mechanical executives in both daily newspapers and larger magazine and commercial plants without waste circulation. But, even if you only want mechanical executive coverage in *one* of these fields we have it without the waste of front office readers and at a cost that compares favorably with any other magazine in the field.

Make the most of your 1934 advertising dollar. Analyze the circulation of all the publications in the field, find out which publication reaches the most of your buyers, has the least front office waste, and at the least possible cost.

A Few Facts About Printing Equipment Engineer Worth Considering

Only PRINTING EQUIPMENT ENGINEER has editorial contents devoted exclusively to equipment, methods and supplies.

It is the one magazine reaching mechanical executives exclusively.

We are the only publication reaching mechanical executives exclusively in both commercial and newspaper fields.

PRINTING EQUIPMENT ENGINEER carries more equipment and supply (exclusive of paper) advertising than any other magazine in the commercial field.

We have the lowest cost per page (exclusive of one organization publication) of any national publication in the printing industry.

Send for rate card and information pertaining to circulation.

PRINTING EQUIPMENT ENGINEER
1370 Ontario Street Cleveland, Ohio

"The New In[illegible] with Quad-ding and Cent[illegible]at I bought in January, 1933, [illegible]so much money that I purchased [illegible]w Intertype, also equipped with [illegible]g and Centering Device, only eight [illegible] after my previous purchase." [From a recent lette[illegible]e Corporation. Author's name on Request.]

INT[illegible]PE

360 FUR[illegible]LYN, N. Y.

Chicago, 130 N[illegible]1007 Camp St.; San Francisco, [illegible]220 South Maple Ave.; Boston, 80[illegible]nto Type Foundry Company Limited, [illegible]hroughout the World

Set on the Intertype in Goudy Bold and Goudy Bold Italic